PELICAN BOOKS

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THE ANCIENT CIVILIZATIONS OF PERU

ALDEN MASON

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J Alden Mason

PENGUIN BOOKS

PART FOUR

Arts and Crafts

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PREFACE

It has been just twenty-five years since the appearance of the recent standard classic on Peruvian archaeology, Philip A. Means's *Ancient Civilizations of the Andes*, and over forty since that of Thomas A. Joyce's *South American Archaeology*. Our knowledge of the subject has increased tremendously since those days; in fact much of our information on ancient Peru is the result of very recent discoveries. When Joyce wrote, both Chavín and Paracas were unknown, the cemeteries of Nazca had been discovered only a decade before, and southern Peru was just beginning to enter the consciousness of the Peruvian archaeologist.

It was not until about 1940 that American[1] anthropologists and archaeologists began to take a live interest in South America. For some years before that, ageing Philip Means and youthful Wendell Bennett were practically the only archaeologists in the United States specializing in South America. I used to urge young men just entering the anthropological field to take up South America as a wide-open specialty, but I am not aware of any that took the good advice. From other countries – Germany, Finland, Sweden, France especially – a few scholars were devoting their studies particularly to this continent, though nowhere near as many as the continent deserved, but in North America the rest of the hemisphere was almost neglected, in spite of its great appeal.

The great increase in knowledge of South American ethnology and archaeology since 1940 has been due almost entirely to the researches of American anthropologists. The Institute of Andean Research, incorporated by eight universities and scientific institutions in 1937, supported eleven field expeditions in 1941–2, eight of them in South America. Later, in 1945, as another activity of this Institute, six institutions collaborated in the Virú Valley

1. I use the word American here with some hesitation and in deference to my Latin American colleagues, many of whom object to the limitation of the name to citizens of the United States of America. They are Americans just as much, they insist. But what less objectionable term is there? Some of them refer to us as North Americans (*norteamericanos*), but Mexicans and many other nationals fall geographically in the same category. Others prefer the awful term *Estadounidenses* (Unitedstatesers). But several other Latin American nations call themselves United States also: Estados Unidos do Brasil, Estados Unidos de Mexico. After all, we were the first to pre-empt the name United States of *America*, and so have prior claim to its use.

Project, the thorough examination from many points of view of the Virú Valley, one of the smaller valleys of northern Peru. Eight phases of work were inaugurated in 1946, and most of them finished in that year, though a few continued until 1948. Reports on all the above researches have already been published.

Contemporaneously with the expeditions and reports of the Andean Institute, another monumental project was begun, the *Handbook of South American Indians*. First planned in 1932, this got under way in 1940 as an undertaking of the Bureau of American Ethnology, Smithsonian Institution. Over one hundred scientists collaborated in writing the 194 articles, filling nearly 4500 pages in the six volumes. These appeared from 1946 to 1950 as Bulletin 143 of the Bureau. Of maximum interest to us is Volume 2, 1946, on *The Andean Civilizations*, with 34 articles in 1035 pages.[1] These articles are the modern standards of reference. A number of other résumés and factual reports of excavations have appeared under other auspices in recent years, especially *Andean Culture History*, by Wendell C. Bennett and Junius B. Bird in 1949. The accidental death of the senior author of this work in 1953, at the age of forty-eight, robbed Peruvian archaeology of probably its greatest and most promising authority.

So dynamic is the state of our knowledge — or lack of knowledge — of Peruvian archaeology that no book can be published at present with any claim to finality; the picture may be altered decidedly by the time it appears on book shelves. The full reports of the last extensive expedition to Peru, that of W. Duncan Strong in 1952, are not yet available. And in particular, in the next few years many new radiocarbon dates will be determined, and many dubious ones either verified or discredited; these may alter the story radically, especially from the viewpoint of culture history. I leave these to my successors.

I am much indebted to my friends the American Peruvianists Alfred L. Kroeber, Alfred Kidder II, [illegible] John H. Rowland R[illegible] and Junius Bird, as well as to my [illegible] Satterthwaite, all of whom read parts of the typescript of this book and made valuable criticisms and suggestions. It must not be assumed, however, that they approve of everything herein, and certainly on some of the more controversial points they are not in entire accord.

I wish also to thank Dr. Paul Rivet, of the University of Paris Institute of Ethnology, for permission to reproduce Figures 3, 4, 5, and 6, and the Servicio Aerofotográfico Nacional [illegible] Ferrario for [illegible]

[1] Steward (Ed. 1946), 1-4

permission to reproduce Plates 3 5A 6 9A and 15A

Especial appreciation however is expressed to the Wenner Gren Foundation for Anthropological Research New York for the grant which enabled me to visit Peru in 1952 and to make the personal acquaintance of the country its archaeological sites and its archaeologists that is indispensable for a work of this type

Most of the Peruvian handicraft herein illustrated is in the University Museum University of Pennsylvania Philadelphia the photographs are the work of Reuben Goldberg Museum photographer Most of the photographs of archaeological sites were taken by the author a few are the work of Sr Abraham Guillére of the Museo Etnográfico Lima a very few from miscellaneous sources

INTRODUCTION

In 1527 a small party of men Spaniards gathered on a tiny island in the Pacific off the coast of what is now southern Colombia In those days sea voyages were no pleasure jaunts The cramped quarters on the small ships the stinking water the monotonous diet of stale food offered no attractions and barely tolerable con d tions for the hardiest of adventurers These h d been several months on the slow voyage of exploration south from Panama where rumours were constantly heard from the Indians of a civilized empire rich in gold to the south But so far the men had seen little but hardships hunger and sudden death most of them were disaffected and mutinous Now the ship for which they had been waiting had arrived from Panama The Governor s orders to abandon the exped tion and return to Panama were received by most with joy They proud Spaniards who had come seeking gold and Indian slaves to wa t on them were in rags subsisting on the shellfish and crabs that they caught on the shores Enough of this! There was little wealth or luxury in Panama but at least the basic necessiti s of food shelter and clothing were not miss ng

But for one valiant soul the fleshpots of Panama had no appeal above that of the call of the unknown to action Francisco Pizarro had not come so far in hop s of imit ing Cortés to be turned back by hunger thirst wetness and othe such t ivial bodily incon ven nces On the sand of the little island he drew a line Behind you h sa d to th men lies ease pleasure – and poverty before you toil hung r death but also Peru and its gold I go south who goes with m ? And he stepped over the line One by one thirteen othe b a f llows follow ed him to give their names to history as the f urteen stalwarts of Gall

For history certa nly eco ds no more sturdy and obstinate per sistence towa ds a distant goal in the fa e of eemingly insuperable obstacles and n more in red ble example of the success of a patently foolhardy venture For these fourteen tenacious ones were the vangua d of the army of less than two hundred men who were to conquer an empire of several millions

But such fo over four enturies has been the lure of Peru Colon sts and adm nistrators followed Pizarro seekers for the silver gold coppe tin, and other metals that the land yielded producers of quinine coca and very recently oil exporters of

1 P escott 1847

guano of alpaca wool and still later chinchillas But not onl came those who sought wealth in Perú but also those wh attracted by its great range of nature longed to study its flora and fauna its geology and geography and to report them to the scientific world Alexander von Humboldt came Sir Clements Mackham Darwin and Wallace to mention only a few of the most prominent

Inca gold now no longer lures the conqueror but Inca – and pre Inca – ruins attract the tourist The Inca armies and the splendour of Cuzco are gone but the great pyramids of adobe still tower over the desert sands and the Quechua Indian still guides his llamas through the narrow walled Inca streets of Cuzco In a few short hours the aeroplane carries the tourist from Panama to Lima over the seas that took many months for Pizarro and his little boats And in even less time it wafts him from the heat of arid sea level Lima over the snow-capped Andes to the cool heights of Cuzco *Vámonos*

PART ONE

THE BACKGROUND

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Chapter 1

THE ENVIRONMENT

THE native Peruvian though ignorant of all but his immediate surroundings, might well boast of being a resident of no mean country For few regions in the world embrace such contrasts of environment from sea level to the maximum habitable altitudes, from utterly leafless deserts to the lushest tropical forests from regions of constant warmth to those of eternal ice and snow And probably in no other place in the world can the transition be made in so short a space While the other great early civilizations of the Old World developed in areas of relatively homogeneous altitude and climate the Peruvian people had to cope with the greatest possible variety Doubtless this climatic contrast had much to do with encouraging the development of Peruvian civilization

The great Andean cordillera[1] is the heart of Peru as of the other western nations of South America In a past geological a e the earth s crust buckled diastrophically creating a great ridge to the east and a submarine trough to the west so that in only about two hundred miles the surface rises from some twenty thousand feet below sea level to twenty thousand above Only in Bolivia is the highland much over a hundred miles in width The continental divide is close to the Pacific Ocean, in places only about sixty miles (100 km) from it On the east side the land rapidly descends to almost sea level from which the slow flowing rivers affluents of the great Amazon meander some

1 See Appe d x p ge 7 f Span sh d Q echua words

not even of cactus According to the Köppen system the climate is symbolized as BWhn (warm desert foggy) The coastal temperature is about 7 F (4° C) below that normal for this latitude

Normally on the coast there is naturally little native flora or fauna except in the river valleys but the cool sea teems with life —fish octopus and sea mammals This is due to the large amount of nutriment in the cold bottom waters brought to the surface by the Peru current It is one of the world s great fishing grounds — except in the times of El Nino For this reason there are also enormous numbers of sea birds who nest on the islands off the coas and have d posited there great thick beds of excrement known as *guano* which for years furnished the world with fertiliz ing ma erial When the Nino strikes they fly elsewhere or die of starvation, as do quantities of carnivorous marine animals Naturally also then the fisherm n and their families have to tighten their belts

But as one traverses the coast highway through interminable uninhabited wastes of sand suddenly one enters lush green fields of corn cotton and rice *Here is a river valley* bringing life giving water from the mountains The transition is sudden above the highest irrigation ditch is absolute arid desert below it, all is v rdant. There are about forty four of th se small streams in present day political Peru of which about thirty-one are per manent, the others flowing only in the rainy season in the mountains About twenty five of these are of archaeological im portance Owing to the flatness of the terrain and the spread of the irrigation ditches however the width of the cultivated valleys is considerable Here are the modern coastal towns and here were the villages of the natives from time immemorial

But the flat coastal strip is qui e narrow and only a few miles f om the bea h begin the foothills of the majestic Andes As one traverses one of the roads into the interior following one of the streams wild plants begin to appear at first widely scattered a stunted cactus thirsting for moisture then another and finally at a considerable altitude one is surrounded by trees and grass For altitude is of much more importance in Peru than latitude and typical Peru is highland.

three thousand miles to the Atlantic. Even the old Inca capital Cuzco is on the Amazon drainage. The rivers to the Pacific naturally are all small and short.

Geographers to-day divide Peru into three radically different climatic areas: the low arid coast, the cool or cold highlands, and the lush tropical humid eastern lowlands or *montana*. The latter, however, is Peruvian only from a political point of view. Geographically it belongs to the Amazonian basin – and we shall not be concerned with it: the old Peruvian civilization never penetrated it deeply, though deriving many valuable tropical products from the nearest parts of it.

Northward from southern Chile parallel to the coast sweeps the great Peru or Humboldt Current, bringing cold water far to the north, water that averages some 5° F (2.8° C) colder than other waters of the same latitude. It used to be thought that this cold water came from the Antarctic, but now it is believed to be due to upwelling in certain places of the cold water from the abysmal depths of the trough parallel to the coast. Cooled by it, the humid east-bound winds drop their excess moisture at sea and deposit no rain on the coast. The sun shines constantly through diffused clouds, but in the winter (June–November) heavy fogs are frequent. The normal precipitation increases towards the north. Southern Peru and northern Chile form the region of greatest aridity in the western hemisphere; here years pass without a drop of rain and there is no visible plant life. At some places in the Atacama desert no rainfall has ever been recorded.

In northern coastal Peru there are occasional rains. In cycles of about every seven years a counter current, locally known as *El Niño* (the boy), flowing south over the cold Peru current, nullifies the effect of the latter and brings heavy rain to the northern coast. Several times in a century, as for instance in 1925, the rains are torrential and terribly destructive to a country where the entire pattern of existence is based on the absence of rain. Even in the great capital city of Lima there is no apparent provision for carrying off rainwater. Then the desert springs to life with a tremendous increase in both flora and small fauna. But normally it is a waste of rocky hills and wind-blown sand without a leaf

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But as one traverses the coast highway through interminable uninhabited wastes of sand suddenly one enters lush green fields of corn cotton and rice Here is a river valley bringing life giving water from the mountains The transition is sudden above the high st irrigation ditch is absolute and desert below it all is verdant There are about forty four of these small streams in present-day political Peru of which about thirty-one are permanent, the others flowing only in the rainy season in the mountains About twenty five of these are of archaeological importance Owing to the flatness of the terrain and the spread of the irrigation ditches however the width of the cultivated valleys is considerable Here are the modern coastal towns and here were the villages of the natives from time immemorial

But the flat coastal strip is quite narrow and only a few miles from the beach begin the foothills of the majestic Andes As one traverses one of the roads into the interior following one of the streams, wild plants begin to appear at first widely scattered a stunted cactus thirsting for moisture then another and finally at a considerable altitude one is surrounded by trees and grass For altitude is of much more importance in Peru than latitude and typical Peru is highland

Much of central Peru is uncultivable, the snow-clad mountains being too high for agriculture or habitation and rocky steep slopes. But the intermontane valleys are fertile and well watered. The climate is designated as Cwb, cool summer mesothermal savanna with winter dry season, the rainy season being from October to May, the warmer summer. (Being south of the equator, winter and summer are naturally reversed.) The annual temperature range, however, is relatively slight, tending towards cool, though freezing temperatures are rare except in the highest plateaus.

In far northern Peru the highlands are more of the Ecuador type, with greater rainfall and leafy expanses known as *páramos*, but throughout most of the country they are grassy grazing lands known as *punas*. Much of the region is unforested and pasture for the herds of llamas and alpacas. There is at present little wild life, but the guinea pig and similar small animals supply the natives with occasional meat.

Hemmed in between high mountain ranges are six major basins which probably contain the larger part of the habitable area of highland Peru, charming great valleys of from eight to eleven thousand feet (2400–3400 m) altitude, fertile, wooded, with ever running streams and grassy fields (in the summer rainy season) and numerous towns and villages. These are, from north to south, Cajamarca, Callejón de Huaylas, Huánuco, Mantaro, Cuzco and Titicaca. The largest and best known of these are Huaylas, Cuzco and Titicaca.

The Callejón de Huaylas is the most thickly populated and one of the largest of these, some 125 miles long and 25 wide (200 by 40 km). It contains a number of towns, the largest of which is Huaraz. Nestling between the great Sierra Blanca and the Sierra Negra, it is looked down upon by majestic Huascarán (22,180 ft or 6761 m). Through it flows the Huaraz River which, cutting through the Sierra Negra and thenceforth known as the Santa, empties into the Pacific in northern Peru, irrigating a large coastal area, the largest of the coastal rivers. Most of the other basins – all except Titicaca – are on the Amazon drainage.

The Cuzco basin, with an average elevation of 11,200 ft (3414 m), is of course the best known of all, the seat of the Inca Empire

The highest and most remarkable however is the basin of Titicaca in which lies Lake Titicaca the highest navigable water in the world 12 506 ft (3812 m) Even more remarkable than the lake is the relatively large steamboat that traverses it Fabricated in England the parts were carried by ship and railroad to the lake and there assembled Of very irregular shore line the maximum length of the lake is 130 miles the width 41 (208 by 66 km.) It is on no drainage system the excess water flowing south to the marshes of Lake Poopo and then evaporating in the sands The basin is divided between Peru and Bolivia and contains the great early archaeological site of Tiahuanaco actually in Bolivia

The Bolivian *altiplano* surrounding the Titicaca basin – which is a little warmer – is a chill dreary treeless *puna* averaging 13 000 ft (396 m) in altitude Geographers call it a tundra or cold desert Too high for corn cultivation the main dependence is on potatoes and on the other native plants quinoa and oca But here is the homeland of the llama and the alpaca and of their herders the Aymara Indians

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Chapter 2

PHYSIQUE AND LANGUAGE

No human characteristic is so constant and changes so slowly as the physical type. Though the culture may change radically owing to foreign influence, the physique remains practically unaltered provided that there is no admixture of genes or radical change in the environment. It may be assumed that the present Indians of Peru who form, according to the 1940 census, about forty per cent of the population, are physically practically identical with their ancestors of four centuries ago.

In early days the dwellers on the coast were probably of a slightly different type from those in the highlands, but the *spread of the Inca in the fifteenth century resulted in a more* homogeneous native type. At any rate, the modern highland Quechua Indian, descendant of the Inca, may be taken as physically representative of his ancestors.

The Quechua body build is massive, the head short, the face medium short. The stature is also rather low. The mesorrhine (medium broad) nose is often arched and the cheekbones are salient; the forehead is low, and the hairline, coming down quite low on the forehead, makes it appear still lower. The eyebrow ridges are only moderately developed, and the eyes are not deeply set. The length and shape of the nose, together with the beardless face, lend a very characteristic appearance to the Quechua Indian. The chest, shoulders and hips in both sexes are well developed.[1]

The Quechuas are rather short, averaging apparently 5 ft 1 in (155.7 cm) for the men, 4 ft 9½ in ([illegible] cm) for the women. This is somewhat below the average for South American Indians.

The cephalic index is 80.9, which puts them just in the brachycephalic (broad headed) class. They are thus a little below the mean for South American Indians. The nose is mesorrhine, with a mean nasal index of 82.

1 Steggerda, 19[illegible], from [illegible] 1934

The highland Peruvians have been described as of dark brown coppery dark olive or olive grey complexion. The eyes are chestnut or maroon with yellowish sclera The head hair is black straight and abundant seldom turning grey As usual with American Indians the face and body hair are very scant

The outstanding characteristic of the Indians of the Andean highlands is the large size of the upper torso doubtless related to the unusual size of the lungs The shoulders are naturally broad but the thighs and forearms are reported to be short

Life in high altitudes such as are found in the altiplano of Peru and Bolivia where the oxygen atmosphere may be only half or less of that at sea level requires profound adaptation and bodily changes on the part of persons accustomed to lower altitudes This applies equally to foreigners and to Peruvians from the sea coast. Often several months are needed before the stranger be comes acclimatized and similar acclimatization is required for those who descend from the highlands to the coast The altitude also affects procreation and both humans and animals often re main sterile for a long time after moving to the highlands Yet the tourist gasping for breath at the slightest exertion sees the native boys engaged in vigorous sports just as at home skiing is enjoyed at an altitude of 17 000 ft (5100 m) and Peruvian aviators from the highlands can ascend to 24 000 ft (7200 m) without feeling any ill effects from lack of oxygen masks The highest recorded habitation is at 17 400 ft (5300 m)

The highland natives whose ancestors have always lived in that region have developed a body build adapted to the oxygen deficiency This of course applies especially to the Quechua and Aymara Indians The torso and the lung capacity are much greater than among low altitude peoples Monge speaks of the remarkable thoracic development and great extension of the chest the very high total capacity of the lungs and the great size of the altitude lung

There are equally great differences in the blood for the cor puscles must be able to absorb oxygen quickly The blood volume is almost two quarts or litres greater and there are many more

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The cephalic index is 80·79 which puts them just in the brachycephalic (broad headed) class They are thus a little below the mean for South American Indians The nose is mesorrhine with a mean nasal index of 8[illegible]

1 Steggerda 1950 from Eickstedt 1934

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[1] M nge 1952

red blood cells and more haemoglobin the amount of the latter is almost double that of sea level dwellers The red blood count is about eight millions as compared with five millions for the average white person from low altitudes Also the heart rate tends to be markedly slow Adaptation to this blood pattern is of course what produces acclimatization for the newcomer to the highlands

Studies on the metabolism of the Indians of Peru indicate that despite the high altitudes they have metabolic rates well within the limits of those for North American whites of to day This applies equally well for both highland and coast In this respect they differ from almost all other American Indian groups studied whose metabolic rates are appreciably higher

When only a decade or so ago the distinction in blood groups O A B and AB was discovered it was thought that these would afford conclusive data on racial migrations and mixtures these hopes were not fulfilled when it was found that practically all peoples are mixtures of all four the differences are in their proportions More recently another set of types known as M MN and N independent of the O A B AB grouping was determined A few American Indian groups [illegible] only O type most of them are mixtures M is of high N [illegible] frequency in America The frequency of the O group [illegible] very high almost everywhere The Peruvians and [illegible] seem to follow the general pattern

The linguistic condition of pre imperial Peru will never be known the languages were never written [illegible] and almost all have become extinct There were [illegible] languages that belonged to independent families [illegible] other and certainly many different related languages [illegible] The Inca made their language the official [illegible] empire and it was widely spoken as a second language [illegible] it as a second official and written [illegible] the local languages Most of the latter were [illegible] by Quechua during the seventeenth and eighteenth centuries a few survived until the nineteenth and one Mochica was spoken until a few decades ago Two more in [illegible] Uru and Atacameño will disappear soon only Aymara [illegible]

Cauqui in addition to Quechua will continue to be spoken for some time [1]

Quechua spoken to day by the majority of Peruvian Indians is the lineal descendant of the Inca language and has probably altered but slightly It is a typical American Indian language functioning on entirely different grammatical principles from European languages almost all of which belong to one linguistic family the Indo-European and have a very similar grammatical pattern. Like all American Indian languages Quechua has a much more complex grammar but one strictly conformable to rules.

A few words have been adopted into English from Inca or Quechua mainly names of native plants animals and features such as llama condor guanaco puma chinchilla coca quinine guano pampa The term jerked meat comes from Quechua *charqui* through Spanish Another interesting adoption is French *la nappe* from Spanish *la ñapa la yapa* from Quechua *yapa* overweight

1 Mason 1950

red blood cells and more haemoglobin the amount of the latt is almost double that of sea level dwellers The red blood cou is about eight millions as compared with five millions for th average white person from low altitudes Also the heart ra tends to be markedly slow Adaptation to this blood pattern is c course what produces acclimatization for the newcomer to th highlands

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When only a decade or so ago the distinction in blood groups O A B and AB was discovered it was thought that these would afford conclusive data on racial migrations and mixtures these hopes were not fulfilled when it was found that practically all peoples are mixtures of all four the differences are in their proportions More recently another set of types known as M MN and N independent of the O A B AB grouping was deter mined A few American Indian groups consist of only O type most of them are mixtures M is of high N of low frequency in America The frequency of the O group is very high almost everywhere The Peruvians and Ecuadorians seem to follow this general pattern

The linguistic condition of pre imperial Peru will never be known the languages were never written [illegible] and almost all have become extinct There were doubtless some languages that belonged to independent families related to [illegible] other and certainly many different related languages and dialects The Inca made their language the official idiom of the empire and it was widely spoken as a second language The Spanish adopted it as a second official and written tongue and [illegible] the local languages Most of the latter were gradually displaced by Quechua during the seventeenth and eighteenth centuries a few survived until the nineteenth and one Muchik was spoken until a few decades ago [illegible] in the [illegible] Uru and Atacameno will disappear soon [illegible] Aymara [illegible]

PART TWO

THE HISTORY OF PERUVIAN CULTURE

*

THE historical viewpoint of a half century ago is epitomized by statements of eminent historians and essayists to the effect that history is the record of the lives of a few great men, that there is no history apart from biography. History consisted of reigns, campaigns, dates. Fortunately this attitude is gone, and modern historians pay more attention – though still not enough – to the more vital point of the development of culture, to the progress of the common people.

But even if the older point of view were still regnant, it could not be followed for aboriginal America. It is dependent on written records, which are wanting in this continent. Legends and traditions, written down at the time of the Spanish conquest, give some true historical data on the preceding few centuries, but before that historical personages are unknown; in the essential democracy of native America the individual rarely was of great importance anyway. The little that is known of Peruvian history from such traditions pertains to the later Inca empire, and is to be found elsewhere herein.

Throughout the world, the history of pre-literate times and regions is reconstructed on the basis of archaeological investigations, the interpretation of the data obtained by excavating from the ground the remains and traces of former peoples. These may be graves or tombs dug in the earth, edifices covered over by drifting dirt or by the accumulations of later occupations, or debris left by successive habitation. In the Old World the results of archaeological work may be tied in with, or corroborated or contradicted by, written records for several millennia before the present; in America there is generally no such corroborative

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material and the archaeological results supply the only data

In the last half century archaeology has developed a true scientific technique. No longer do professional archaeologists merely abstract intriguing objects from the ground or uncover buildings without much thought as to their context. To-day the location of every object is marked and its spatial relationship to every other one observed. Excavations proceed downward by thin levels and the changes in the nature of the objects found in each stratum are noted. The associations of objects in and out of graves are recorded and so their respective ages and the characteristics of the artefacts of each period are determined. When one of these is found as a trade object in another region the respective chronologies can be tied up. Especially important is the lowly potsherd, often neglected by the amateur archaeologist. Pottery is nearly as indestructible as stone, and the possible variations in technique, shape, and especially in decoration are almost infinite. So the potsherd has naturally become the archaeologist's main and standard criterion of cultural periods, and often has supplied the distinctive names for them.

Chronology and Absolute Dates

Until very recently all dates for the archaeology of preliterate civilizations were subjective estimates without any accurate basis and the guesses of equally good authorities often differed greatly; they were based on such features as accumulation of debris or overburden, magnitude of cultural change, and similar factors for which there are no standard criteria. Historical records, on the other hand, can, after long study and comparison, afford rather accurate results. Egyptologists, for instance, feel quite certain of dates as remote as 2000 B.C. within an error of ten years.

Within the last very few years a more perfect tool for the relatively accurate dating of archaeological remains has been developed by the analysis of radioactive carbon, the isotope Carbon 14. These studies were first begun by W. F. Libby of the University of Chicago in 1946, and by 1951 he had progressed so far that the dates of nearly two hundred archaeological or glacial a

objects of crucial importance from a chronological point of view were announced

It is unnecessary here to go into the details of the study and the process interesting *per se* as these may be Carbon 14 is formed in the upper atmosphere by the impact of cosmic ray neutrons on atmospheric nitrogen. Like all unstable radioactive substances it disintegrates at a regular rate having a half life of 5568 years That is to say half of any given amount of Carbon 14 will disintegrate in 5568 years half of the remainder in the next 5568 years and so on until all is gone thus there is none left in Carboniferous Age coal Carbon 14 therefore forms a tiny fraction possibly one millionth of all organic carbon Careful investigation has indicated that this carbon isotope exists in this standard tiny percentage everywhere in the atmosphere and has thus existed at least throughout human history Since all living organisms vegetable or animal constantly ingest carbon from the atmosphere, it follows that they all throughout their lives contain the same small fraction of this isotope At the *organism s death it ceases to ingest Carbon 14 to replace that* which continues to disintegrate Obviously then a measurement of the radioactivity of any organic substance wood peat bone shell cloth etc. will provide data from which the number of years since its death can be calculated within a known margin of error [1]

Tests on objects of known absolute or comparative ages have convinced both physicists and archaeologists that properly made tests on suitable organic objects will yield reliable results within a small margin of error Unfortunately and as should be quite obvious there is great danger of contamination from present day organic materials which naturally would greatly affect the results however the error is always towards less age Objects to be tested should be gathered and carried with this specific purpose in mind and many objects of crucial chronological importance were not so treated To procure a reliable date several tests should be made on the same material and the results should be

1 See Broecke W S and J L Kulp The Radiocarbon Method of Age Determination *American Antiquity* XXII pp 1-11 July 1956

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1 See Broecke W S and J L Kulp Th Rad ocarbon Method of Ag D t rm n t n Americ *Ant qu ty* xxii 1 pp 1–11 July 956

very close most of the dates secured up to the present are the results of one test and often on material exposed to contamination (A considerable amount of material is needed for the test and this is destroyed in the process) Generally therefore if a date reached by a radiocarbon test seems entirely unreasonable to the archaeological expert, and out of line with adjacent dates he may decline to accept it and insist on awaiting the corroborative or contradictory results of other tests

Eras and Periods

It is coming to be realized that with only minor deviations practically all of the great ancient civilizations of the world developed along more or less the same lines [1] A fortunately situated people on a hunting and gathering plane of economy developed or adopted agriculture With the increased and assured food supply that this brought they became more sedentary and multiplied greatly While the food supply was ample the leisure time between harvest and sowing permitted the development of arts and crafts social and religious institutions and other concomitants of culture which culminated in a relatively peaceful Golden Age Then pressure of population and the resultant competition for the means of food production resulted in violent conflicts between adjacent groups and mastery by a few of them Finally one of the latter impelled by the lust for power rather than by real need for economic security – although generally offering the latter as an excuse – achieved power control over all others within its sphere establishing an empire Names such as Formative Florescent Fusion Militarist have been applied to these developmental periods

While most historians and archaeologists will agree to the above general outline when it comes to applying it to specific regions the sequential phases of culture to be placed in each division and the specific cultural items employed as criteria for such classification there will be great differences in personal opinion and violent disagreement Considerable Procrustean

1 Steward 1948 1949a

bed fitting must be employed to force local divergences into any general scheme

Even for a single-culture area such as Peru no such system of cultural development can be proposed that will fit all regions and satisfy all authorities Except in the rare instances of sudden change as by military conquest, the slow development of civilization will not permit the assignment of a definite beginning or an ending to a cultural period Cultural lag in one region will place a cultural phase later in time than a similar cultural phase in another area thus in any synchronized development scheme there is considerable overlap

Practically every Peruvianist who has published on the general subject in the last five years has accepted and used this concept of evolutionary cultural periods and the differences in opinion regarding the criteria for each and the archaeological and cultural phases composing each are not great but there is yet no standard terminology For instance the Huari Tiahuanaco period is termed by some Expansionist by others Fusion the Moche or Mochica period is Florescent or Mastercrafts men Some combine the Chimu and Inca periods some eliminate the Cultist period and consider it a phase of the later Formative or Experim nter

This developmental and evolutionary scheme must therefore be thought of as little more than a generalized skeleton but it seems the most cog nt method for the simple presentation of an undocumented culture history It is most strictly applicable to the Peruvian coa tal regions especially the northern and central ones the best known its application to the highland cultures l ss well known in their earlier phases is largely presumptive but not refuted

The ar haeological chronological chart on pages 16-17 is therefore gi en without any claim to finality The only rtainty about it is that it will be changed in some degree within a very few years, as more excavation is done and especially as more rad ocarbon dates are determined. Peruvian archaeological knowledge is in such a dynamic state at present that no two such charts drawn up by any two Peruvianists would agree in all respects especially as to period names and dates Some of them

	D te A	B	*Period*	*Northern Coast*	*Centr l Coast*	*Sou hern Coast*	*Sou hern H ghands*
	8000 B.C.						
INCIPIENT			P e- gr cult l				
	255		Ea ly Agricultu l	H a P ta			
		00 B.C.					
DEVELOPMENTAL	B		F rmat	E ly G añ pe			
	85		C lt	Cop qu	Ea ly Ancon S pe		Ch l
	50	420	Expe im tal	S l Early G l l	Ch y whit-on red	P as Cavernas Ocucaj	Huar wl e-on red
FLORESCENT	300	A.D. 400	Fl resce t	Moche La G llna	I lock g Ea ly Lim	Para as Nec pol s, N zc	Recuay
CLIMACTIC	.D 50	A. 000	E pansions	Tiah naco	Tiah naco Ep gon l	N zc A	W lk wain
	D 000	30	L b t	Ch m	Ch y bl k-on-wh	Ica	Late Huama huc
	D 44	438	Impe ialist	Inc	Inca	Inc	Inc
	A.D. 155	55	Colonial	Spanish	Span sh	Spanish	Spa h

D tes A nd B are proposed by equally competent hori ies. The A school accepts the rather few adioc rbon da es the B rejects them as compatible with the archaeological d

PERIODS IN PERU

Central H ·hland	*Southern Highlands*	*Cultural Development* (*Especially applicable to the North Coast*)
		Hun ing fishing and ild-plan -food g the ing
		Simple griculture comb ned h fishing hun ing and wild plant-food gathering
		Corn and po tery re introduced. Gre echnical progress is made in all crafts
		Cultural progress contin es. Certa lements common to almos all regions suggest widespread rel gious cult tha of Cha In
Chanap ta	Chiripa	Many new tech iques indicate very dynami period
	Ea l Tiahuanaco Pucara	Handicraft aches ts pogee as d engineering chi- tecture and the social features
Huari	Tiahuanaco	Apparentl period tarting with conquest and poli ical social unification breaking d wn into one of disrup ion or decaden
Early Inc	Collao Ch llpa	Local autonomy with large popula on entres we har acteristic feature in som ar as. Cle -cut gional styles in ceram cs
Inca	Inca	The Incas de to power conquer all others, and establish mil tary emp re
Spanish	Spanish	Th Spanish unde Pizarro conque th I ca empi the Colonial P riod begins

ARCHALOLOGICAL CULTURAL

E as	D t A	B	Period	Northern Coas	Centr l Coast	Sou hern Coa t	Northern H hands
INCIPIE NT	8000 B C		P e g ult r l				
	55		Ea ly Agr cultural	H Pr eta			
	B 5	20(c.					
DEVELOPMENTAL			F rma	La ly C an pe			
	85(B						
			C ltist	C p sn q	Early An on S pe		Cha in
	3 0 B	4 0					
			Expe mental	S l Ea ly G l l naz	Chanc y whit -on red	P as Ca rnas Ocu aje	Huara wh te-on red
	300	D 400					
FLORESCENT			Fl resce	Moch Lat G ll nazo	I lock g Ea ly Lam	P ra as Necropol N zc	Recuay
	A.D 500	A D 300					
CLIMACTIC			Expans on t	T h naco	Tiah anaco Ep gon l	N zc Y	W lk wain
	D 000	5 0					
			U ba t	Ch m	Cha y bla k-on wh	I	Lat Huama cl uco
	D 44	43B					
			Impe ialis	I ca	I ca	Inc	Inca
	D 53	53					
			Colon l	Spa ish	Spanish	Spanish	Spa h

D tes A nd B re proposed by equally competent hor es. The A school accepts the rathe few ad oc rbon d tes the B rejects them as n t compat bl with the rchaeological d

PERIODS IN PERU

Cen al H ghands	*Southern H ghlands*	*Cultural Development (Espe ially applicable to the North Coast)*
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Chanapa	Chiripa	Many new techniques indic te very dynami period
	Earl Tiahuanaco Pucara	Handicraft reaches pogee an d engineering archi tecture and the social features
H an	Tiahuanaco	Apparently period tarting wi h conq es and pol ical social un fication breaking down into one of disrup ion or decadence
Earl Inc	Coll Chullpa	Local tonomy w th large population cen res were har acteristic f tu in some reas. Clear-cut regional tyles in ce amics
Inca	Inca	The Incas d to powe co que all thers, and establish mil tary em ire
Spanish	Spanish	The Spanish unde Pizarro conque the Inc emp re the Colonial P riod begins

object to any presentation by universal culture periods on the ground that this is fully applicable to only one region the northern coast the data on the other regions being not so full Probably some compromising has had to be done but the data have not been controverted The greatest difference in opinion concerns the dates American Peruvianists tend to fall into two schools of thought on this question Those of school A accept the rather few radiocarbon dates that have been arrived at and incorporate these dates in the chronology school B rejects the dates as being on the whole too early not compatible with other archaeological data and requiring too much change from earlier estimates In the text herein the earlier A chronology accepting the radiocarbon dates has been adopted

The functional developmental system of classification herein adopted is objected to by some Peruvianists on the grounds that it is not proved for certain regions of Peru They prefer a system an expansion of the formerly accepted division into Early Middle and Late based on the three horizon pottery styles that imply pan Peruvian influences John H Rowe in a yet (1956) unpublished paper suggests such a classification the approximate correlation of which with the system herein employed would be

Initial period	Formative period
Early horizon	Cultist period
Early Intermediate period	Experimental and Florescent periods
Middle horizon	Expansionist period
Late Intermediate period	Urbanist period
Late horizon	Imperialist period

Chapter 3

THE INCIPIENT ERA

c 8000–1250 B.C.

THE history of Peru begins of course not with Pizarro nor with the first Inca but with man s – and woman s – first invasion of the soil that was later to become the Republic of Peru This was, according to the best modern consensus over ten thousand years ago He was a hunter of the wild game and a gatherer of the wild produce of land and sea doubtless a man of simple culture In physical type he may have differed considerably from the modern Indian For five thousand years the improvement was slow then he discovered or invented agriculture and life became easier but it was another thousand years or more before he had mastered that art the prerequisite of civilization We therefore divide the Incipient Era into two periods the Pre agricultural and the Early Agricultural

Pre Agricultural Hunting and Gathering Period

c 8000–2550 B

The history of this long period is almost entirely theoretical Cultural progress was slow and probably never rose much if at all above that of the present aborigines of Tierra del Fuego Only a few sites of this pre agricultural hunting period have been reported in Peru some in the highlands some on the coast but not enough on which to base criteria for minor cultural periods of development It is quite possible that the highland peoples in those days were in the cultural van the coastal fishermen backward and peripheral There is some evidence that at this period the precipitation in the highlands was greater than at present with a consequent larger amount of vegetation and game

tested give dates much later than certain others in the Unite
States Sandals found in a cave in Oregon appear to be abou
9000 years old a relatively short time after that ascribed to th
melting of the last great ice-cap in northern Wisconsin 11 oo
years ago and but little before the occupation of a cave near the
southernmost tip of South America to which an age of 8639
years is ascribed about 6 00 B C [1]

Transoceanic migrations to America have always been a favourite creed of those with the will to believe but until quite recently anathema to all reputable American anthropologists they still are to many or most No theory of trans Atlantic migration – or even of influence – has ever received any consideration from scientists of repute it is supported by no credible evidence

However ignoring the mythical Lost Continent of Mu evidences of trans Pacific contacts are strong enough to be almost convincing to many good anthropologists Their time extent route nature and effect are still so little known that no cogent comprehensive picture of them has yet been proposed But there are many curious and close resemblances in cultural elements between several regions in mainland America and Polynesia Melanesia and south-eastern Asia that are difficult to account for on other grounds than historical contact [2] The evidence seems to indicate voyages across the Pacific at several different times or on several different horizons some of them surprisingly early but mostly relatively late and to and from several different regions

The place of the Polynesians the native inhabitants of the eastern Pacific Islands is of course a very important one in this question There are many cultural resemblances between Polynesia and America though others seem to by pass the islands and directly connect Cambodia and Middle America or Melanesia and Alaska for instance However the physical type of the Polynesians their language and the fundamentals of their

[1] Recent (956) rad oca bon determinat ns ha e d n ed th ge f man n Am ca en rm u ly to mo th n 23 800 y rs f th camp at Tul Sp gs \ da, nd 37 000 f that in D nton County T xas The valid ty f these dates is t ll unde discuss n Ekholm 950



Peru, the Americas, & Polynesia

culture connect them with south eastern Asia rather than with America and there is little doubt that they originally came from the Malayan region at no very remote period In fact they still retain very detailed legends of their migrations at least of the later ones The fact that they settled Easter Island over a thousand miles from Pitcairn the nearest island to the west and only about two thousand from the American coast suggests that Polynesian canoemen probably reached the latter land also from which the return voyage would have been relatively easy However the first great voyages of the Polynesians are believed to have been at a relatively recent period probably in the first half of the first millennium A.D and it has been conservatively estimated that they did not reach Easter Island until the fourteenth century A D at which time the Peruvian civilizations were at their apogee Pre Polynesian occupations of the eastern Pacific islands are not indicated much less proved and we know of no earlier Oceanic people who had the skill and equipment in navigation to be able to make such voyages

The recent drift of a raft from Callao Peru to the Polynesian Tuamotu Islands proved that such a voyage was feasible for unpowered craft though not Heyerdahl s[1] belief that the islands were populated in this manner But to make a similar return voyage to America in the face of contrary currents and winds is a very different matter requiring a high degree of skill in navigation Long before the voyage of the *Kon Tiki* however anthropologists were convinced of the historicity of pre Columbian westward voyages because of such facts as that the sweet potato a plant of admitted American origin, was found by the earliest European explorers under cultivation in Polynesia and had been long known there by its Peruvian name *kumara*

In fine the resemblances between certain cultural features in America and in Polynesia, Melanesia Indonesia or south eastern Asia are too great and too close to be all explained away as parallel developments It is altogether likely that certain elements of Oriental origin were introduced from time to time over a long period into America, but their effect on the general American

1 H ye dahl 9 0 19 2
2 D x n 1933

cultural pattern was apparently relatively unimportant Similarly some American cultural traits may have been carried to Polynesia Malaya or south eastern Asia

It has even been suggested by a prominent agronomist[1] that maize (Indian corn) itself was originally brought to America from south-eastern Asia at a very early period This theory was based primarily on the interesting discovery that the Nagas and other hill peoples of Assam cultivate a very primitive type of corn that is practically a modern representative of the oldest and most primitive types of corn found archaeologically in America Other plant experts however found many flaws in this hypothesis and it was not generally accepted

Aboriginal American cultivated cotton has recently been indicated to the satisfaction of botanists to be a hybrid between Asiatic cultivated and American wild cotton Cotton was present in the lowest agricultural pre ceramic horizons of coastal Peru Carriage by human hands across the Pacific at this early period would appear to be the only explanation The other agricultural products found in this earliest Peruvian agricultural horizon beans and cucurbits (squashes and gourds) are also of wide spread occurrence in both the Old and New Worlds

On the coast of Chile characteristic stone implements have been found which must have come from Easter Island

The pan pipes of Peru and of early China show some astonishing similarities such as use in pairs connected by string with alternate notes of the scale on alternate instruments

In both regions a narcotic is chewed betel nut in the Pacific coca in the Andean region and the alkaloid is released by mixing the quid with lime The gourd containers and the lime spatulas are of the same basic forms

Bark cloth is made of the same or a similar bark by a very cognate process in Polynesia and South America and the product has a very similar appearance In both regions feather mosaics were important and had a very like appearance made by analogous processes

Some close resemblances are found in weaving Especially interesting in both regions are the several processes of resist dye

1 Stonor and Anderson 1949

ing by which the cloth or the yarn from which it is woven is tightly bound or otherwise protected before dyeing so that certain portions remain undyed.

Whatever cultural influences possible trans Pacific voyages and migrations may have had they had little effect on the blood or physical type which is predominantly Protomongoloid Anthropologists are pretty well agreed that America was populated by peoples of this type who came via Alaska during a favourable time toward the end of the last glacial period when so much water was tied up in the ice cap that the sea level was lowered some three hundred feet making a broad isthmus at what is now Bering Strait [1] Despite the great ice cap elsewhere the geological evidence is that the region of the Strait and of the Mackenzie River Valley was unglaciated. Gradually the migrants spread south filtering through Panama and reaching Patagonia after many centuries or several millennia They were a marginal or peripheral people hunters fishermen and food-gatherers in a primitive hunting stage of culture a stone age with a poorly developed technology

The oldest traces of man so far found in South America have been in the Andean highlands the highlands of east Brazil and in southern Patagonia none has yet been discovered in the forested region though it must be remembered that the latter area is still slightly known and difficult of exploration

Four discoveries of human remains are of outstanding importance In 1844 the Danish explorer Lund excavated a number of caves in the Lagoa Santa region in the state of Minas Geraes Brazil and secured eight human skulls and other remains in association with the bones of the great ground sloth and other extinct animals and in an approximately equal state of fossilization [2] The skulls are definitely archaic having the lowest known average cranial index in South America 71 7 and showing some non Mongoloid characteristics In 1933 renewed investigations in this region produced another cranium of similar type known as the Confins skull associated with the bones of mastodon

[1] S S ll d 95 Wormi gto 949 1953 and M cg w 19

[2] Lütken 1884 Ten K t 885

physical types may occasionally be found among American Indians to-day [1]

We have seen that the Lagoa Santa and Confins remains were found in association with the bones of the extinct great ground sloth horse and mastodon. In Palli Aike cave near the Straits of Magellan, Bird found long headed human skulls and artefacts associated with bones of the sloth and the horse which latter was extinct in America at the time of Columbus This cave is given a radiocarbon age of about 8600 years The one measurable skull is long headed and somewhat resembles the Lagoa Santa type [2] The condition of the remains of a mastodon found near Quito in Ecuador suggests that it had served as a meal for men of that time [3] In 1952 prominent United States archaeologists invited to the site witnessed the excavation of a mammoth skeleton in indubitable association with stone projectile points and knives in the Valley of Mexico [4] However these evidences of man s contemporaneity with extinct animals are no proof of great antiquity for all the data indicate that the animals survived in America to a much later time than formerly believed.

And so our primitive aborigines finally reached Peru after their ancestors long journey from Alaska They probably lived in small kin groups knew how to make fire and flint knives scrapers and projectile points by pressure flaking and how to cut and shape bone into awls and other implements They hunted with spear and spear thrower for it would be many millennia before the bow and arrow would be introduced or invented The virtual universality of certain traits in America indicates that they believed in supernatural beings and witchcraft had shamans or medicine men who cured illness by sucking out the pernicious object and believed in the evil influence of menstruating women sequestering them with special emphasis on the pubescent girl On this primitive basis the American civilizations of Mexico and Peru were built

1 F r a cons rvati e critique see Macgow n 1950
2 B rd, 1938 3 Uhl 1928
4 A el yra Arroy de And 952 A econd m mmoth has ecently been discov red t this t of Santa Isabel Iztapan See A el yra n *American A tiqu ty* vol 22 pp 12 28 1956

greatly increased Soon too they realized that some individual plants were more vigorous than others and afforded a better crop they began to save and plant the roots and seeds of these superior plants and their quality began to improve Naturally each group tended to plant first the crops that they were familiar with as native wild food plants but also adopted those of neighbouring areas especially if the latter were superior The best of these soon spread to the limit of their natural environment and ultimately by long cultivation and selection and slow evolution types developed adapted to environments much different from those tolerated by their wild ancestors Botanists believe that several millennia of such cultivation and selection were required for native American food plants to have developed from their original wild forms to the varieties cultivated at the time of the Conquest.

The three great American food products corn (maize) beans and squash thus eventually spread over the greater part of North and South America in a great many varieties adapted to various climates Some botanists believe that the American food plants that are known in only one species such as corn sweet potatoes chilli peppers peanuts manioc, and tobacco had a single centre of domestication probably South America while those that exist in several species such as squash beans tomato and cotton were independently developed from different wild ancestors in several different regions – or possibly one of the forms was introduced from abroad Further almost every region had its own local plant foods of limited distribution plants that tolerate only a special environment, or possibly ones of rather recent domestication Most of these are found in Middle America and Peru the two great and earliest centres of plant domestication

Maize or corn which became the great staple food of much of aboriginal America and a great world crop is generally admitted to be the most domesticated of all plants without known wild relatives and incapable of self propagation The origin of corn has been hotly disputed for years and the best agronomists held conflicting opinions Only five years ago one of the best of them could write that the original home of maize was a greater puzzle

than ever before[1] Archaeologists had discovered very primitive types of corn, tiny ears with highly developed glumes pop corns and pod corns but not an extreme type of pod corn Such corn found in Bat Cave New Mexico has been given a radio carbon age of 5605 years (i e 3650 B C) with a plus or minus possible error of 290 years

The situation has been greatly clarified however by the recent and sensational discovery of maize pollen in drill cores in the Valley of Mexico from a depth of over 200 ft (over 60 m) On the basis of currently accepted glacial chronology this is at least 60 000 years old The corn must have been a wild variety the ancestor of modern corn This discovery has impelled Mangelsdorf[2] to announce the following conclusions as established maize is undoubtedly an American plant its ancestor was wild maize This was a popcorn and a form of pod corn but not the extreme type known to day It had at least one centre of origin in Middle America Later it hybridized with Tripsacum or teosinte to produce new types

More than one hundred food plants were *cultivated by the* American Indian of which of course each region possessed only a part Peru with over thirty of them was probably in the forefront (See pages 69 137) Of these only very few such as *gourds cotton sweet potatoes possibly plantains peanuts and* coconuts have close enough relatives in the Old World to suggest importation (and the sweet potato almost certainly was of American origin) the great majority have no foreign congeners *but rather close* wild relatives in America

In the older discarded theories of cultural evolution the pastoral stage was presumed to have preceded the agricultural economic one However this may hold for the Old World – and even there it is generally discredited to day – it does not fit America at all Only in Peru were there large animals susceptible of domestication the llama and alpaca native to the highlands Whether plants or animals were domesticated first in this high land region is a moot question without any present evidence possibly they were always as to day contemporary At any rate the llama and alpaca have both played a most important part in

1 Sauer 1950b 2 Mangelsdorf 1954

Peruvian native economy since very early cultural history The bones of a llama were found in an early agricultural level in the Viru Valley the domesticated animal must have been brought to the coast from his native highlands However this was a long time – probably at lea t a millennium – after the earliest agriculture on the Peruvian coast

Early Agricultural Period
2550–1250 B C

In Peru the criterion for th Early Farmer period is the ab ence of pottery for some new plant foods – especially maize, later the staple food – were introduced at the same time as pottery and agriculture made a great and sudden advance

Our information on this period is limited to the Peruvian coast, and mainly the north coast We do not know the conditions at this time in the highlands whether the latter region was more advanced or more retarded, the cultivated plants must have been different at any rate Actually practically all our data come from one site for although three other pre ceramic sites are known on the northern coast and one on the central coast the only one that has been sufficiently excavated to afford data is Huaca Prieta at the mouth of the Chicama Valley This the earliest known to date in Peru [1] and the oldest known agricultural site in America was carefully examined by Junius Bird in 1946 and it affords our best – and a very good – picture of life on the Peru coast in this remote period

A ample of charcoal taken from the lowest level of the Huaca Prieta mound and resting on bedrock was analyzed by the radiocarbon method and ascribed an age of 4298 plus or minus 230 years This date is acceptable to Mr Bird who further calculates that the age is probably between 4320 and 4528 the latter being the radiocarbon maximum age This would mean that the sample dated from between 2370 and 2,578 B C [2]

At that remote time conditions at the mouth of the Chicama Valley were probably somewhat different from the present

1 Bird 1948 1948b 2 Bird 1951

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1 Sauer 1950b 2 Mangelsdorf 1954

Lagenaria and *Cucurbita* are of considerable interest[5] The former is represented by *Lagenaria siceraria* the bottle gourd which was used for a number of purposes in addition to – or possibly not including – food as ladles containers and floats for fish nets It is practically identical with the bottle gourds found in Polynesia and may have been introduced from there The cucurbita are *ficifolia* and *moschata* squashes presumed to be of American origin

Food was apparently cooked with the aid of small hot stones possibly by dropping them into containers of water together with the food as was done by most of the Indians in the United States

The houses were small single room and semi subterranean the walls lined with small boulders or cobblestones In another Early Agricultural site where stone was less accessible they were composed of rectangular adobe bricks The roofs were made of timbers and whale bones resting on posts The very oldest graves were merely dug in the ground but slightly later they were small chambers lined and capped with small boulders

The paucity of handicraft found in the excavations illustrates the simplicity of the life Pottery was absolutely absent as were all ground stone tools and knives and projectile points made by pressure flaking The absence of the latter is most surprising for the technique of pressure flaking is one of great antiquity in the Old World and the most beautiful pressure flaked tools ever made in America the so called Yuma points of the western United States are given a radiocarbon age of about 7500 years the Huaca Prieta artefacts are of paleolithic type

The only tool made of bone was a small awl and the sole wooden artefact a paddle shaped stick probably used for digging There were no beads or other ornaments and only a half dozen of the thousands of objects found such as fragments of easily decorated gourds showed any attempt at ornamentation and these were very rude the people obviously were not aesthetically inclined

Cloth was made of pounded bark a rather surprising feature for this is an element of the culture of the tropical forest region not of the Andean. As might be expected mats and baskets were

[5] Whitaker a d B d 1949

Probably the river carried more water and there were lagoons and swamps more lush vegetation a larger area available for agriculture and consequent greater amount of animal life especially of birds

The people lived like those of the eastern coast of the United States by an economy that included fishing and wild plant gathering together with simple agriculture The population although sparse was probably about the maximum that could be supported under these conditions Probably the major part of the dietary consisted of fish caught in nets as the place was not well adapted to hand line fishing the latter practice was known however as indicated by the discovery of small fishhooks of shell or thorn suitable only for small fresh water fish Hunting either for sea mammals or land animals played a very minor part in the economy for no weapons whatever were found nor any remains of land animals a few bones of sea lion porpoise and sea birds indicate that these were occasionally eaten if not hunted. Since land game was still hunted in the later Moche period it could hardly have disappeared apparently except for the simple agriculture the orientation was exclusively toward the sea The dietary was mainly maritime – fish mussels clams crabs and even sea urchins and starfish It is very interesting that the mussels were of a deep water variety rarely found in less than fifteen to twenty feet of water indicating that the men must have been good swimmers

Wild plants provided additional food in the form of roots of the cattail tubers of a rush and a sedge and several native wild fruits

The agricultural complex of course is of especial interest Corn or maize later to become the staple food is missing and most of the cultivated plant foods discovered in the excavations are of world wide occurrence everal varieties of beans bottle gourds squash chilli pepper achira (canna) and cotton were cultivated It is not impossible of course that some of these grew wild

The cotton is apparently the 26 chromosome *Gossypium barbadense* variety believed to be an Asiatic American hybrid The beans are of at least three varieties but no scientific report ha been issued on these as yet The cucurbits consisting of both

Chapter 4

THE DEVELOPMENTAL ERA

c 1250–300 B.C.

ABOUT a millennium seems to have elapsed between the later stages of the simple potteryless farmers of Huaca Prieta and the time when Peru practically reached its apogee of culture and most of the techniques had been perfected. This era might properly be termed Developmental.

Almost all our data on this epoch refer to the coastal people mainly in the north and the adjacent northern highlands, as it is in these regions that the most intensive archaeological studies have been made, and only towards the end of the era that any contemporary sites from the central and southern highlands are known. This is more likely due to the better state of preservation of coast materials than to any great difference in cultural level.

During this era there was a gradual change – on the coast at least – from a subsistence economy based mainly on sea food to one with the main dependence on agriculture. The population increased slowly but there were no large centres; the small village was apparently the political unit. It was a time of early cultural *development*.

The era divides naturally into three periods: Formative, Cultist and Experimental.

The Formative period begins with the introduction of pottery and ends with the beginnings of Chavín influence which introduces the Cultist period.[2] The Experimental period then takes us up to the time of the great early high cultures.

1. The Developmental Era with its three periods is a concept of my own and disagrees with the classification. It is equivalent to Strong's long Formative epoch and includes Bennett's Cultist and Experimental periods (Bennett (editor) 1948, p. 114). Both of these in my opinion are too inclusive. Bennett includes in his Cultist period the preceding long non-cultist Guañape period and Strong does not differentiate the important and Pan-Peruvian Chavín cultist influence.

2. It includes only the first stages of Strong's Formative Epoch, the Early and Middle Guañape (Strong and Evans 1952).

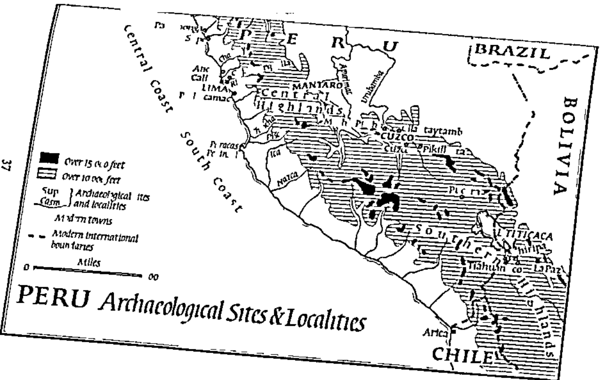
made of twined rushes and reeds But probably the most interesting manufactures were the woven cloths of which about three thousand fragments were found

Wool was unknown – on the coast at least – at this time and practically all the textiles were of cotton a very few of bast – some local plant fibre About three quarters of them were made by *twining a very old process of wide distribution Netting looping* and coiling used in the manufacture of wide meshed fish nets and bags accounted for most of the remainder but nevertheless there were a number of pieces of true weaving

The twined cloths may have been made without even a frame with merely warp strands hanging from a stick The weft was not continuous it crossed the warps only once and was then knotted at the selvedge *Although no true designs were made* the process of twining was modified in various ways so that pleasing effects were produced

The woven fabrics are obviously examples of very early and primitive weaving Though a true loom was necessary it probably had no heddle the picking of the warps being done entirely by hand All the cloths are quite small almost never more than *eight inches (20 cm) in width and about double that in length* Every piece is in some way combined with twining sometimes twined rows between woven areas or other variations Sometimes as with the twined cloths the wefts are short yarns that cross the fabric only once The warps outnumber the wefts so that the cloth is of the warp faced type with the warps prominent on the surface Sometimes short sections of warp were left free or floating on the surface creating variations which can hardly be dignified by the name of design Blue was the only *colour found*

The over all picture of this earliest known sedentary Peruvian population is therefore *that of a simple peaceful people living in* a small cultivable oasis by the sea fishing raising a few food crops living in small simple non masonry houses and making the objects necessary for their economic and household life with slight attention to art


BOLIVIA
BRAZIL
CHILE
Central Coast
South Coast
MANTARO
LIMA
CUZCO
Apurimac
Urubamba
Ica
Nazca
Arica
Over 15 000 feet
Over 10 000 feet
Archaeological sites and localities
Modern towns
Modern international boundaries
Miles
PERU Archaeological Sites & Localities

PERU Archaeological Sites & Localities

Over 15 000 feet
Over 10 000 feet
Archaeological sites and localities
Modern international boundaries
Miles

PERU
BRAZIL
BOLIVIA
CHILE
Central Coast
South Coast
Central Highlands
Southern Highlands
LIMA
MANTARO
CUZCO
Ollantayt
Pucara
TITICACA
Tiahuanaco
La Paz
Arica
Nazca
Ica
Urubamba

the fire As in the former period the sea produced the greater part of the dietary and the life was little changed except that techniques as in cotton weaving improved slightly Houses were still semi-subterranean but – in some places at least – they were lined with cylindrical adobe bricks instead of by cobble stones a d water worn boulders

Throughout the long Guanape period which is divided into Early Middl and Upper the culture continued to develop and improve both at the type site in the Viru Valley and in con temporary sites in adjacen valleys Weaving improved and en tirely woven fabrics appeared although twined ones continued to be made some entirely new weaving techniques are found Several other new types of objects both utilitarian and orna mental weaving implements stone bowls bone snuff tabl ts and snuff tubes beads of bone shell and stone pottery stamps and figurines and jet mirrors now appeared indicating quite a cul t ral advance and a development of aesthetic feeling A few burials of this period have been found accompanied by a few simple objects a funerary offerings The bodies were either fully extended or placed in a seated posit on with outstretched legs

Religious ceremonialism with sacred places evidently played an important role since at Aspero in Supe a rude structure which probably served this purpose has been discovered It con sists of one large and two small rooms connected by doors the lo r walls are of natural stones laid in mud plaster and the floors re of clay A platform occupies the centre of the main room. Her were found llama bones and corn both probably imported rom the hi hlands Sacrificed llamas were also found in a rude emple in the Viru Valley

In the middle of the Guanape p riod maize came in to add a most important food to the local dietary It is possible that these new elements in the culture here were introduced by an im migrant people and that both the cultures and their bearers blended From the larger pan Peruvian point of view this means that somev here in some yet undiscovered place there was a higher culture at this time

The Guanape period was a long one On the basis of radio carbon analysis the beginning with the appearance of the earliest

The Formative Period

c 1250–850 B C

The long occupied mound at Huaca Prieta in the Chicama Valley the best known site of the maizeless potteryless early farmers was abandoned before the culture of its habitants had improved greatly and the best data for the ensuing period come from excavations in the Viru Valley a little to the south where also is found a less known site of the Early Agricultural Period Cerro Prieto [1] The period is also sometimes termed Guanape from the near by little fishing village of that name where sites of this archaeological period were discovered and excavated

Plain pottery both black and red was found in the earliest Guanape levels but it is believed that the two colours were merely due to inefficient control of firing While of a poor quality and lacking decoration the ceramic could hardly be termed experimental and while doubtless of local manufacture it is doubtful if it was a local invention though this is not impossible It was of course hand modelled and probably built up by the coiling process In the later periods other and better pottery types were developed and soon displaced this inferior form

This is apparently the earliest and most primitive ceramic yet discovered in Peru and certainly not far removed from its most primitive prototype

In this connexion mention should be made of some rude and poorly made pottery vessels found at Queneto in the Chicama Valley supposed by Larco Hoyle to represent the beginnings of ceramics in Peru and assigned to this horizon No sherds or other examples of this ware have been found except for the forty two vessels in two caches in the Queneto temple and for this and other reasons they seem more likely to represent hastily made offerings placed in the temple at a later period

The earliest Guanape vessels were apparently exclusively utilitarian and show no decoration But what an improvement over the gourd vessels that were apparently the only previous containers for liquids! Cooking could now be done directly over

1 Strong and Evans 195   2 L co Hoyle 1 J4

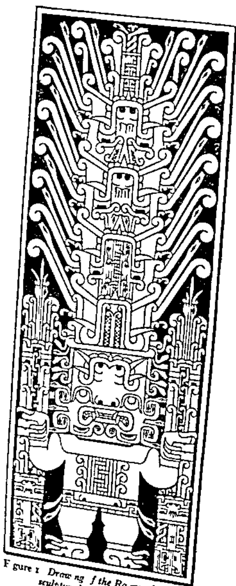
the northern highlands on the east side of the continental divide on a small tributary of the Maranon River just across the divide from the Callejon de Huaylas It is not a large site and Peru vianists believe that it was only one of several ceremonial centres of the Chavín cult But at any rate it is the most important of the few known typical sites and the largest one on which detailed reports ✕s However nothing but very superficial excavations have yet been made there

The land available for agriculture in the small valley sur rounding Chavín is limited and could never have supported a large population it was not the centre of a populous district Nevertheless a considerable body of men must have been oc cupied for a long time in its construction Although it contains many rooms they were not well suited for habitation and the buildings were almost certainly not residential they may well be compared with the stone buildings of the Maya of Middle America composing a ceremonial centre

The complex covers a considerable area [1] For a space of over eight hundred feet (250 m) square the surface is completely landscaped with a sunken court raised platforms terraces, plazas and stone edifices oriented to the cardinal points prin cipally east west Though there are a number of buildings one known as the Castle (*Castillo*) far exceeds the others in size and importance Fortunately it is – or until recently was – rather well preserved for it is unique – much the largest of the few known similar structures of this ancient period In this highland region old buildings were neither torn apart by lush tropical vegetation as were the Maya structures nor covered with drifting sands as in the Near East

For probably the earliest known large stone edifice in Peru the Castillo is remarkably advanced architecture and there can be no question that a long period of architectural development in masonry lay behind it somewhere The plan is complex and it must have been built from the first stone with the finished struc ture in mind if not according to a drawn plan or a model It con sists of three floors – more than were built at any later period in Peru – all of dry stone masonry The building even contains a

1 B nn tt 944



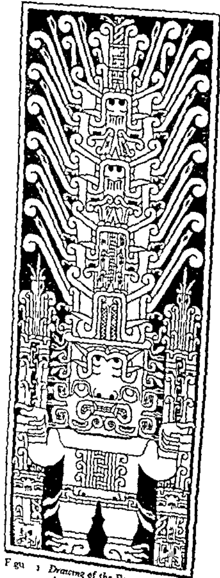
F gure 1 *Draw ng f the Ra mundi Cha t sculptur d tone monument*

system of ventilating shafts both vertical and horizontal so efficient that it is said they still provide fresh air for the interior rooms – surely the work of no amateur masons However the walls are massive and thick faced with selected split stones and filled with rubble The outer walls are faced with large rectangular dressed stones laid in courses of various widths alternately thick and thin

The Castillo is an immense complex building large and square about 245 by 235 ft (75 by 72 m) It is still about 45 ft (13 m) high at one corner The outer walls are slightly battered i e slope inwards towards the top where also they are set slightly back in several narrow terraces Originally there was a row of large projecting carved heads inserted in the walls by means of tenons which encircled the building below a decorated cornice a few of these heads still remain The interior consists of a maze of walls galleries rooms stairs ramps and ventilating shafts on three floors The rooms and galleries are rather low about six feet (1 8 m) high the galleries only about a yard or metre wide the rooms from about six to sixteen feet (2–4 5 m) There are no external windows or doorways except for the main entrance to the first floor reached by a stairway of perfectly cut rectangular blocks as beautiful plain masonry as was ever erected anywhere (Plate 1A)

The edifice is massive as well as immense the rooms and galleries are of less cubic area than the walls and other masonry They are dark without any lighting Great broad slabs form the ceiling of the room below and the floor of that above and the roof slabs are covered with earth which formed the foundation for several small rectangular masonry houses that were built upon them In one of the galleries a large tall vertical carved stone known as the Lanzon was discovered (Plate 36)

The status of archaeology in Peru and the immense amount of work that remains to be done there may be judged from the fact that this great significant and almost unique edifice has never been carefully studied No detailed plan exists in fact many of the rooms and galleries have never been entered for many – or most – of them have never been cleared of the stones and debris with which they were apparently filled in ancient unrecorded



F gu 3 *Drawing of the Ra m nd Chavin ulptu d ston monument*

times Sad to report such studies may now have become im possible or prohibitively expensive since the structures were largely covered by a great landslide only a few years ago in 1945 [1]

Though overshadowed by the Castillo the Chavín de Huantar complex consists of many more features such as plazas plat forms terraces and mounds The mounds and apparently also the platforms seem like the Castillo to be masonry construc tions honeycombed by galleries

Chavín influence extended quite a distance to the north since several little known sites such as Kuntur Wasi and Pacopampa in the Department of Cajamarca show rather definite Chavín characteristics in architecture and sculpture

However the Chavín horizon is best known in its manifesta tions on the northern coast where sites and cemeteries of the period have been excavated affording better data on the life of this time than can be secured at the highland sites The ph se best known is that of the Cupisnique graves in the Chicama Valley but edifices and graves in the Casma Nepena Viru and Lambayeque Valleys the debris in the lower levels in shell heaps at Ancón and Supe [2] and certain other sites from Piura to Lima show Chavín traits Chavín influence also seems to be pre sent at the earliest known sites on the southern coast those of Paracas Cavernas and Ocucaje [3] showing the widespread rami fications of this culture The resemblance is seen in the ceramics in shape decorative technique and motifs Some Chavinist en thusiasts see these influences extending to Ecuador Bolivia (Tiahuanaco) Argentina (Barreales) and northern Chile (Pi chalo) but these are not accepted by the best authorities In some places such as Cerro Blanco and Punkurí in the Nepena Valley and Moxeke and Pallka in Casma Valley the resembl ances are seen in masonry temples or terraced pyramids in the others they are recognized in the pottery and other grave furniture

The coastal Chavinoid architectural sites were recently dis covered and are not well known None has been well excavated

1 It is now (1956) being cleared by the nat nal D c ón de Arqueología
2 Willey and Corbett 1954
3 Kroebe 1953

or described and of most of them little is known. Several especially Cerro Blanco in the Nepena Valley have mud-covered walls painted with Chavinoid designs in several colours

A very important site which has been the cause of much dispute among archaeologists is Cerro Sechin in the Casma Valley The unusual and striking feature is a line of erect large flat unshaped stone slabs carved with large human figures and human heads in outline or low relief The poses are rather dynamic and naturalistic and they have been compared with the dancing figures at Monte Alban, Mexico The art however is very different from the Chavín Cupisnique style Though apparently on the Chavín horizon – probably in fact a little earlier – Cerro Sechin seems to be a sub-culture *sui generis* like nothing else yet known

To date we know little or nothing about the cultures of the southern coast or of the central or southern highlands of Peru on the Chavin horizon though the site of Kotosh in the central highlands and Paracas Cavernas on the southern coast may possibly be contemporary

The nature of the Chavín horizon has long been a mooted point The native Peruvianists have thought of it as a cultural entity possibly even a pre Incaic empire at any rate a civilization Tello its principal protagonist thought that it was brought to the coast by a migration from the Andes and that it originated in the Amazon region Larco Hoyle believes that it began with the Cupisnique people on the northern coast and was carried by them to Chavín de Huántar and other highland parts The opinion of United States Peruvianists as formulated in a masterly paper by Gordon Willey [1] is that it was not a homogeneous culture but the expression of a widespread and rapidly diffused religious cult

While these sites on the Chavín horizon show a basic cultural similarity they differ considerably in detail more than would be expected of a homogeneous culture The common possession the determinant feature of Chavín is a similar art style This emphasizes a feline – jaguar or puma – treated in a characteristic stylistic manner It is as epitomized by Willey a matter of line

[1] Willey 1951b

various sites of the Chavín period and between the temporal subdivisions of this horizon though on a rather uniform basis. Future researches will differentiate and characterize these subdivisions.

Agriculture had improved immeasurably and now was the main source of food supply; fishing, hunting and wild food gathering were of less importance. Corn had been introduced to assume its place as the staple food, and the beans, squash and gourds of the earlier population were now relegated to minor roles. No scientific report on this earliest maize has yet been published, but it was a primitive type with small ears, probably a popcorn but definitely not a pod corn. Nevertheless it was corn and capable of developing – as it did – into one of the world's most important plant foods. With it came peanuts, warty squashes, avocados and possibly yucca or manioc. And of even more importance, with these improved agricultural conditions came the post-harvest leisure time that horticulture affords, time in which to develop and improve technology, art and the higher aspects of culture. Sea food, however, continued to be of importance here – as it is yet – as evidenced by the large shell heaps and middens containing refuse of this period, middens, by the way, from which come many of the archaeological objects that afford us the data for reconstruction of the life.

Some llamas had been brought down from the highlands, but their herding probably had not yet become an important element of native life. The dog may have been introduced at this time but it is not certain; strange to say, there is no evidence of his presence in this region at any earlier period.

The locations of the habitation sites of this period on the edges of the fertile areas at the mouths of the rivers imply that agricultural engineering was still in an incipient stage. Irrigation and drainage were primitive and doubtless much of the watered land was swampy or overgrown with brush or weeds. The cultivable area was not great, nor was the population.

The houses of the people were apparently small, one-room rectangular structures with thatched gable roofs. It is doubtful whether they were grouped in the settlements according to any plan with regular streets. They stood on raised stone-faced

period. Th se in other coastal sites of the Chavin horizon cor tain little grave furniture and few pottery vessels and little or n food placed in them Owing to their comparatively great age an to the greater amount of precipitation in this northern coast region textiles and other objects made of perishable organi substances are rarely preserved However the middens a Ancón and Supe preserve such perishable objects as nets bags baskets mats gourds and textile clothing of the Chavin horizon.

The Cupisnique and probably all other men of the northern coast on this horizon, apparently ordinarily wore nothing but a loincloth and cap the attire of the wom n is not known Bone ear ornaments and fin er rings bracelets wristlets crowns and necklaces of stone beads were worn by one or the other or by both sexes as well as feather head dresses and capes Stamps found in the graves su est that the body was decorated with paint. As frequently in later periods in Peru skull deformation was a common practice

Th potters of the Chavin horizon had reached a high plane both as craftsmen and as artists but the industry was still too new to have achieved technical excellence. Naturally each region or site had its specific types and within these the fashions varied from generation to generation. From the type site of Chavin only potsherds are known but they are of technically good quality They represent simple shapes mainly open bowls with thickened rims and vessels with stirrup spouts so charac teristic of the coast, seem to be lacking The ware is polished red black or brown or combinations of them. Decoration is mainly by incised lines with a little low relief and modelling but no true painting Very similar potsherds have been found in the lowest levels at the shell heaps of Ancón and Supe

The best known ceramic of this period is that from the Cupis nique graves of the Chicama Valley it bears but slight resem blance to the pottery of Chavin These vessels are of course mortuary furniture the utilitarian ware being less attractive Cupisnique pottery was not discovered until 1939 and is poorly represented in all museums outside of Peru Alth ough giving an impression of technical mastery it both looks and is heavy

with thick walls The control of the firing had not been perfected and the vessels were baked at a low temperature with a reducing atmosphere so that the surface is black brown or red Toward the end of the period a few vessels of lighter colour appear The most common shape at any rate among the mortuary furniture is the stirrup spouted jar a form that is very characteristic of Peru and which retained its vogue in the northern coastal region throughout Peruvian history (Plate 23) Two curving tubes rise from the quasi spherical body of the vessel and coalesce into one vertical tubular spout thus serving as a handle The body of the vessel is altered into effigy shape or decorated

Since dark surfaces do not lend themselves to painted decoration it is not surprising that there is little of the latter in Cupisnique ceramics However the beginnings of painting are seen in the occasional colouring of the designs enclosed within incised lines

Some Cupisnique pottery vessels are said to bear impressions of moulds or even to be entirely mould made a process that became common in the later Moche[1] period Quantity production at such an early cultural stage would not be expected and would indicate a surprisingly rapid advance in technique

The decorations are on the whole simple generally curvilinear geometric but the feline the determinant art element of the horizon is frequent Effigy vessels were modelled or moulded in the form of animals plants human beings and even houses A human portrait jar and a nursing mother are outstanding individual pieces

In the Cupisnique graves only enough textiles have been preserved to assure us that weaving was practised but better preserved examples found elsewhere show that while by no means all techniques later found were known the art had progressed greatly over the simple fabrics of Huaca Prieta The use of the heddle is indicated Tapestry and embroidery were made as well as plain weaves a lace like gauze and gingham and embel

1 American Peruvianists prefer the new term Moche to the old standard Mochica We do not know if they spoke Mochica the language in use here in Colonial days but we do know that they erected the structures at Moche

lished with fringes and tassels All seem to have been of cotton

Although no metal objects of the Chavín period have been excavated under controlled conditions three groups of gold ornaments are known which judging from their art style and other circumstances are ascribed to this horizon [1] Two of these came from graves at Chongoyape the provenience of the third is unknown One of these groups apparently consisted of a man s a other of a woman s ornaments They are probably the oldest known examples of metallurgy in America Some are of pure gold one is seventy four per cent silver and the others consist of a large proportion of gold a small proportion of silver and a little copper the three metals were probably not intentionally mixed Most of them were made of thin hammered gold, for casting later the principal metallurgical technique had apparently not yet been invented The techniques employed however demonstrate the rapid advance of the goldsmith s art for they include hammering embossing annealing welding soldering strap joining incising champleve cut out designs and the manufacture of bimetallic objects One pin has a gold head and a silver shaft

For all that we know to the contrary metallurgy and all the above goldsmithing techniques may have been invented in this northern coastal Peruvian region – or they may have been introduced from we know not where The discovery that gold and silver nuggets are soft and can be cold hammered into thin plates must have been the first discovery the various methods of decorating these sheets followed quickly Later the use of heat was discovered and metallurgy was on its way to the heights of technique and art that it later attained

The Chavín horizon gold ornaments are really dainty and exquisite and include a large range of objects pendants of many different types tweezers staff heads crowns ear and nose ornaments cuffs, pins plaques and disks gorgets ear spools spoons and beads Some human or animal figures in the round are naturalistic but the more common repoussé ornamentation is either geometric or very conventionalized naturalistic including elements that are typical of Chavín stone carving especially

1 Lothrop 1941 19 12

the feline motif Strange to say much of the gold was painted with coloured pigments

The Cultist horizon peoples were also master artisans in minor media such as semi precious stones bone shell and wood Beads pendants rings combs and similar ornaments were made of turquoise quartz lapiz lazuli and other hard stones – a protracted task for a people without metal implements – as well as of bone and shell Pyrite and jet provided materials for polished mirrors

Among the utilitarian objects made on this horizon may be mentioned hammer stones club heads grooved stones pro jectile points mortars pestles bowls and boxes of stone awls spatulas needles daggers spoons and spear throwers of bone or wood (or both) nets and netted bags twined baskets mats of *totora* reed carved gourd containers and clubs and boxes of wood An object of *chonta* palm wood found at Ancón and claimed to be a bow is of considerable interest as showing the possible use of this weapon at this early period in the United States its first appearance seems to have been at a much later time Nevertheless the Cultist hunter and warrior certainly relied much more on the spear and spear thrower

Large sculpture in stone was an important culture element in the highlands but unknown on the coast except at the site of Cerro Sechín which as we have seen is rather a cultural anomaly possibly of an earlier period

The over all picture of life on the Cultist level the earliest Peruvian culture that could be considered a civilization as illus trated on the north Peruvian coast the only region from which we have sufficient data is that of a simple sedentary people whose activities were still devoted mainly to acquiring the means of existence food and shelter Nevertheless the leisure time afforded through their main dependence on agriculture per mitted the community erection of temples and other religious structures A religious cult in which a feline deity puma or jaguar played the most prominent role was the common element for otherwise the small villages apparently had no political bond and the local cultural variations from valley to valley were considerable Both trade and warfare were apparently of little

importance The small settlements were probably based mainly on blood relationship. Ancestor worship and the cult of the dead had apparently hardly begun the vogue that they later reached in Peru.

It has been suggested that such great structures as Chavin de Huántar were shrines to which pilgrimages were made from a large surrounding region and centres in which the entire population gathered on definite occasions for ceremonial celebrations and for markets This is a Peruvian – and a nuclear American – cultural pattern of long standing as exemplified for instance by the great pan Peruvian shrine at Pachacamac and to day by the great annual *romería* at Copacabana Bolivia It was probably at these times that the assembled multitudes built – or at least assembled the great amount of materials necessary for – the immense structures and edifices A small number of trained architects and masons could then work during the long interim periods while the great body of the people returning to their villages disseminated the new cultural developments – together with the gossip – that they had learned during their pilgrimage

The Experimental Period

c 500–300 B C

The term Experimental aptly characterizes the period between the Cultist (Chavin Cupisnique) and the Florescent periods It was a time of development of improvement of invention. In fact the Experimental might be considered the earlier incipient developmental phase of the full blown Florescent which without any sudden break followed it As is inevitable in such cases it is a question of personal opinion as to when the first ended and the second began and whether a transitional phase should be placed in one or in the other

Local cultures on the Experimental horizon are found in all parts of Peru beneath the earliest known in some regions though certainly not actually the first However as in the earlier periods, almost all our data come from the coastal peoples No outstanding civilization, culture art or technique characterizes the

period and the local phases are little known and of interest to few but archaeologists The period lacked any over all unity

It must constantly be kept in mind that all these peoples and cultures of early Peru are unknown to history Archaeologists separate the main periods and give designating terms to them generally the modern name of the region with some temporally qualifying adjective but we do not know what name the people applied to themselves or what their neighbours called them what language they spoke what their gods and chiefs were named what inventions they contributed to mankind or what evils they perpetrated on their neighbours For there are no written records and no traditions

The Cultist art with its emphasis on the Chavín feline the one unifying bond of that period suddenly disappeared and with it all traces of former cultural homogeneity Probably the religious cult waned and possibly former unifying pilgrimages were abandoned Apparently the people became more locally minded and each valley began to develop the local characteristics that it had begun in the Cultist period All however were on practically the same cultural plane with many common elements Among these were two horizon styles of pottery decoration traits that must have spread from centres For the greater part of the period the characteristic pottery decoration of most regions was of designs painted in white on a red surface and this has been employed as a term for this sub period in several of the areas Chancay White on Red on the central coast and Huaraz White on Red in the northern highlands the white on red style is also found on the northern coast where it is known as Salinar Towards the end of the period negative painted pottery appeared in these three regions as well as on the southern coast

White on red ware is unattractive The shapes are simple bowls and cups with flaring sides and rims and bottle shapes being the commonest forms There are few effigies and no stirrup spouts though double spouts are found The decoration is usually of simple rectilinear geometric designs with rather thick straight lines parallel hatched or cross hatched dots and circles pictorial designs are missing and incising and modelling

rare In a variant type of this ware either the entire vessel or large zones of it are painted white

Although the break between the Cultist and the Experimental periods is a rather sharp one it was apparently cultural rather than political in nature there is no evidence that it was accompanied by any war or migration In only one place the Cultist tradition apparently lasted into and through this period for the Chavín feline appears again in the Moche art of the following Florescent period though practically missing in the intervening Salinar culture of the Moche region A very few unusual and untypical designs on Salinar bone spatulas and on Paracas Cavernas ceramics on the southern coast, are the only Experimental period objects that betray any Chavín influence

A comprehensive description of the culture of the period is difficult because of the great degree of local variation It was a period of development and experiment archaeologically this is best seen in the technology On the whole although the technology is superior th art and the aesthetic feeling are not equal to those of the preceding Cultist period

Information on the culture of the Experimental period is derived from graves cemeteries from refuse deposits of dwellings and from fortresses and shrines the first three mainly from coastal sites the latter two from the highlands

As in the former periods the coastal settlements were on the margins of the river valleys or on the coast While there was still great dependence on sea food the progress in agriculture had been great irrigation was practised and a number of new cultivated plants had been introduced Among the latter were the frijol bean quinoa and several other plants known only in Peru Terraces were built to utilize better the small amount of irrigable land available Coca the narcotic plant of the highlands – of the greatest cultural importance in later times as to day – was grown or known, and chicha the beer made of corn seems to have been made. Meat was apparently preserved by drying and grain was stored Llamas were common in the highlands and well known on the coast Some edifices were of stone masonry but most were of adobe the latter being of different shapes in the three main sections of the coast northern central and southern

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graves these of course were mortuary offerings and the utilitarian ware is not well known Most of these have a red paste and surface. This red colour indicates a great technical advance for the vessels must have been fired in a very hot oxydizing fire instead of in the relatively low temperature reducing fire that produced the black or dark Cupisnique ceramics Possibly the kiln had now been invented, at any rate temperature control had improved greatly A small minority of vessels have the dark colour of Cupisnique pottery

The paste of Salinar pottery is superior with more even tempering than in Cupisnique ceramics Jars with vertical spouts and ribbon handles are common handleless vessels being rare. The white colouring was apparently applied with a brush on the untreated surface without the basic slip that later became almost universal The eyes are treated in an unusual characteristic style and the details of the facial expres ion are especially notable Applique relief is slight and low

The stirrup jar with tubular spouts continued to be the most common shap the body of the vessel was either modelled in effigy form, or decorated with incising painting or relief or both The effigy vessels at least were made in moulds humans animals birds plant and other objects are portrayed The incised and painted designs are simple and geometric The beginnings of painted pottery later to become almost universal in Peru are here seen This represented another important step in cultural advance The colouring is generally white but a little red paint was also employed The pictorial representations are slightly stylized lacking the perfect realism that the later Moche pottery in this region achieved A few of the effigy vessels are pornographic though none depict practices of perversion This is significant in view of the slight interest in sex generally characteristic of aboriginal American art and religion and of its importance in the later Moche ceramics

Not enough of Salinar fabrics have been preserved to afford much information on the subject of textiles Bone spatulas bear incised designs that connect them with Cupisnique art motifs Fewer Salinar gold ornaments have been found than from the Cultist period and no new techniques are known except possibly

next great period The communities were well organized so that ar e pyramids doubtless religious structures were built of adobe bricks which were formed in moulds made of cane In t ..sive agriculture produced by irrigation was the basis of life Llamas seem to have been plentiful Fishing and hunting were now of .light importance with little dependence on the sea Weaving was highly developed as was metallurgy

When first identified the Gallinazo culture was believed to be of a much later date following the Moche period but the stratigraphy of recent excavations plus the radiocarbon date c 550–350 B C indicate its earlier position

The pattern of economic life in the central and southern coastal regions probably differed but slightly from that of the Salinar and Gallinazo peoples but information is scanty Excavations at Cerro de Trinidad and Banos de Boza in the Chancay Valley show a period characterized by a rather unattractive type of pottery painted in white on the red paste for this and oth r reasons it is correlated with the Salinar period The painting is generally rude carel ss simple and geometric effigy vessels are rare In fact, throughout Peruvian history the ceramics of the central coast were aesthetically much inferior to those of the northern and southern coasts The other objects found in the graves differ only in minor details from those of Salinar and include gold cloth pottery figurines pan pipes and spindle whorls The bod es are generally flexed in graves covered with poles though some are cov red with stone vaults

Remains of edifices of some type made of large hemispherical adobe bricks are found in this region

The known archaeological history of the southern coast begins la e in this Experimental period However it was doubtless occupied in all four preceding periods though no sites of these periods have yet been identifi d There are known to be great shell and refuse heaps on the coast which when investigated will almost certainly r veal evidences of an early fishing and agricultural population like that of Huaca Prieta on the northern coast In those days of simple culture the differentiation any where on the coast wa probably very slight.

The stupendous masonry ruins of the Peruvian highlands and

gold copper alloy but there is no reason to think that the gold smith's art had deteriorated

The better care for the dead indicates a belief in the after life and probably early phases of the cult of ancestor worship which later became of maximum cultural importance The bodies were interred wrapped in or covered with textiles and provided with pottery vessels and gourds containing food and drink They wore their ornaments and a piece of beaten gold was often put in the mouth Dogs were sometimes placed at the feet together with pieces of chalk quartz and other stones generally of a white colour Red powder (cinnabar?) was found in most of the graves The body was almost always laid at full length on the right side in elliptical graves covered with great stone slabs No exact orientation was observed in the making of the graves but most of the dead had the head in a westerly direction

Large stone sculpture was apparently unknown

On the north coast the Salinar culture was succeeded in the latter part of this period by a slightly different and more developed phase the Gallinazo This was probably the result of a highland influence on the Salinar people Gallinazo is so named from a site in the Viru Valley where the culture was first identified and where it appears in strongest form Some believing that the culture originated in this valley and disliking the name Gallinazo (Vulture) term it the Viru Culture [1] Its characteristic pottery type decorated with negative painting (see page 261) is found in some other valleys of the north coast This negative painting is typical of the Callejón de Huaylas in the northern highlands especially of Recuay in the next period and is doubtless related to and possibly an influence from the cultures of highland Ecuador and southern Colombia where this technique was in great favour Since it is also found in the Paracas Cavernas pottery on the south coast and a little more frequently on the central coast it is a quasi horizon style diagnostic of this time

The Gallinazo was a period of probably several centuries duration in the Viru Valley at least [2] Civilization had progressed greatly and was only slightly inferior to that of the Moche in the

1 Larco Hoyle 1945a
2 Strong and Evans 195

proof The great diversity of Paracas Cavernas pottery shapes the occasional use of negative-painted designs and the post fired painting strongly suggest a dynamic experimental stage rather than a static standardized one Cavernas has therefore always been considered the older and has been assigned to the Experimental period Necropolis to the Florescent Recent (195) excavations by Dr W Duncan Strong in the Nazca Valley have convinced him that the two are contemporaneous but the data in support of this have not yet been made public. The conservative former point of view is therefore retained herein with the admonition that it is controversial and may soon be altered Acceptable radiocarbon dates are not yet available.

Paracas Cavernas was so named because the bodies are found in communal bottle shaped chambers excavated in the rock at the foot of vertical shafts at a depth of approximately twenty feet (6 or 7 m.) Many of the tombs also have a stone lined upper chamber at the surface As many as fifty five bodies were found in one of these sepulchres of both sexes and all ages The head were artificially d formed and a large proportion of them had been trephined The bodies were wrapped in coarse cotton cloths and accompanied by mortuary offerings. It has been suggested that the tombs might have been family vaults The considerable variation in the quality and quantity of the grave good placed with the dead suggests a similar difference in economic conditions during life

Paracas Cavernas pottery is of superior type and very distinctive it is very rare in museums and other collections. A Chavin Cupisnique influence is likely for incised lines delimit the coloured areas and the feline motif occurs [1] The colours are however bright and polychrome yellow green red and black the polychrome pottery set the pattern that was further accentuated in the later Nazca period The pigments are thick and glossy like a mastic, and giving the impression of cloisonne they seem to have been applied after the baking The designs are most often rectilinear geometric less often stylized biomorphic

The variation in form is very great and there cannot be said to be any standard or predominating forms Simple silhouette

[1] Kroeber 1953

the immense adobe pyramids of the north coast have always been famous but the ancient civilizations of the south coast in the valleys of Pisco Ica and Nazca without any impressive structures were almost unknown until the present century The cemeteries of the Nazca period with their extraordinary polychrome pottery were discovered by Max Uhle in 1901, those of Paracas with their even more splendid textiles by Julio C Tello in 1925 In this region it can almost truly be said that it never rains and the objects buried with the dead in the desert sands are incredibly well preserved All surface indications of these cemeteries have long since been covered or erased by the drifting sands and they are found to day only by the spade of the archaeologist or the probe of the native treasure hunter

The Paracas Peninsula lying about eleven miles (18 km) south of the port of Pisco is the seaward extension of a line of low sandy hills known as Cerro Colorado The red sand is absolutely bare of all vegetation not a leaf not a living thing no stream enters the ocean near by The nearest human habitation is several miles away where wells tap underground water and a few sedges line the beach It is the epitome of loneliness and desolation Yet beneath these sands are found the desiccated bodies of a people unknown to history together with some of the most magnificent cloths that the world has ever seen To-day their bones lie scattered on the surface and the winds alternately cover and uncover fragments of the coarser fabrics discarded by the diggers still soft and strong after nearly two millennia For the mummies have been removed from the discovered cemeteries and either carefully preserved by archaeologists or rifled and only the saleable goods kept by native *huaqueros*

Two types of burials known as Paracas Cavernas and Paracas Necropolis [1] were found in this region by Julio C Tello between 1925 and 1930 They differ greatly in nature and in contents Cavernas being characterized by a remarkable type of polychrome incised pottery and textiles of average quality Necropolis by magnificent cloths and simple unpainted pottery The former shows some Chavin elements the latter is obviously related to the Nazca culture demonstrably later by stratigraphic

1 Carrion Cachot 1949

that the objects are much less well preserved and – as a natural concomitant – much less excavation has been done there In the northern highlands little more is known than the type of pottery rather rude and painted with white geometric designs on the red surface the type site is at Huaraz in the Callejón de Huaylas The houses were semi subterranean The white on red is a horizon ceramic style linked with Salinar on the north coast and with Chancay white-on red on the central coast but it is missing in the south and in the central highlands

At Chanapata near Cuzco excavations in 1941 revealed the occupation sites of a pre Incaic population the only one yet found in the Inca region proper [1] While only its precedence to the Inca is certain for cultural and other reasons it is generally assigned to the Experimental horizon contemporaneous with Salinar Chronologically it hangs in the air without identified antecedents or descendants It was probably pre Huari Tiahuanaco and presumably relatively early showing some Chavín influence though almost certainly not as early as the latter

The culture of the place and period was incomparably inferior to that of the Inca who later made this region the cultural centre of South America Masonry of plain uncut field stones was employed in semi subterranean houses and in the walls of agricultural terraces Very little attention was paid to the dead who were buried in unlined pits in refuse heaps apparently without any mortuary offerings Metal seems to have been unknown – at least none was found – but implements and ornaments were made of stone and bone

The pottery is *sui generis* slightly known and of no aesthetic or technical interest. It is mainly either incised polished black or painted white on red with a little red on white Flaring bowls plates ollas and bottles are the typical shapes Most of the decoration is incised but punctate designs and appliqué are also found Most of the decorative designs are rectilinear geometric, but some biomorphic motifs were employed especially a feline which, however is stylistically very different from the Chavín cat.

In the southern highlands also a site has been discovered and

1 Rowe 1944

without any political or religious bond and with considerable local variation The emphasis was on agriculture and on the development and improvement of techniques in economic life and in handicrafts Formalized religion apparently played a small role in native life at this time hrines and temples seem to have been few

As before remarked the division between the preparatory Experimental and the full blown Florescent periods is a vague indefinite one for the transition was slow even and unbroken and intermediate phases may be placed in one or the other according to the opinion of the individual Diagnostic pottery styles evolved into others White on Red into Interlocking at Chancay and Pachacamac, Salinar into Gallinazo and Moche Chiripa into Pucara and Early Tiahuanaco Most of these later phases could be placed in either period

The length of this Experimental period is a most controversial question and the estimates vary greatly According to the chronological scheme adopted herein it lasted about two centuries from c 500 to 300 B C. Other guess dates are from 400 B C to A.D 400 a period of eight hundred years

excavated which is ascribed to this period in this case stratigraphy indicates that it was pre Tiahuanaco in age This is at Chiripa on the Bolivian side of Lake Titicaca and therefore not far from Tiahuanaco [1] Probably as in all such cases, the unknown people who lived there also occupied similar settlements throughout this region but only one small site in addition to Chiripa has been discovered so far Here the village was composed of fourteen rectangular houses in a circle surrounding a central court The lower part of the walls was made of small stones embedded in clay the upper part of rectangular sun dried large mud bricks (adobes) and the roofs were apparently thatched The walls had two unique and interesting features they were double and the space between them was utilized for storage very much as cupboards in some modern houses However they were apparently used as storage bins for food and access was through windows in the interior walls instead of doors Even more interesting are long narrow slots left in the wall masonry at the door jambs undoubtedly sliding doors fitted into these

Agricultural terraces with masonry supporting walls were used in this region also at this time The dead were interred in stone lined box graves under the floors of the rooms The depth of the refuse deposits indicates that the site was occupied for a very long time

Chiripa ceramics are rather rude with simple geometric designs painted generally in broad lines or bands in yellow on a red slip the painted areas are sometimes outlined by incised lines a technique found also in Chavin and Cupisnique Paracas Cavernas and Ocucaje and in the neighbouring and slightly later Pucara A feline figure made in applique relief is a frequent element The most common shape is a bowl with flat base and straight vertical sides The utilitarian objects found include stone mortars hammers and similar tools bolas bone needles awls spear throwers chisels daggers knives etc A few objects of pure copper have been found

The general picture of the Experimental period is one of small discrete local groups on more or less the same cultural plane but

1 Bennett 1936

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Chapter 5

THE FLORESCENT ERA

c 300 B C–A D 500

BY the close of the Developmental Era and the Experimental period an epoch represented by Salinar and Early Gallinazo on the north coast and probably by Paracas Cavernas on the south Peruvian civilization at least as expressed in technology – weaving ceramics metallurgy and other handicrafts – had passed its adolescence and was prepared to enter the classic stage The crafts had a firm basis and most of the techniques had been developed Later periods saw a refinement of these a great increase in quantity production a florescence of art a development of social institutions and civic patterns but little change in economic or technical methods In fact the apogee of the latter was certainly reached in these times

This era is therefore termed Florescent because in it Peruvian culture as represented in economy technology and art flourished to achieve its maximum It was a relatively long era probably encompassing much of the first millennium of the Christian epoch It consists of only one period the Florescent As generally believed by archaeologists it was a period of at least six centuries during which the Peruvian cultures attained and retained a high level of excellence There was no uniformity no ubiquitous horizon style to tie the various regions together As in the preceding periods we know nothing historically of the various peoples their languages or wars all our data have been supplied by the spade and trowel of the archaeologist

These excavations indicate that for a period of several centuries artefacts and handicraft of a technical and artistic quality that was not later surpassed were made in most parts of Peru but especially on the coast The period ends not with any catastrophic war as did most Old World eras and not with any dark age of cultural retrogression but with the appearance of the Huari Tiahuanaco horizon style a pan Peruvian influence which merely affords a convenient time marker The many

peoples with their minor variant cultures continued their lives untrammelled except for adopting and adapting to their cultural patterns the Huari Tiahuanaco art style

The period was characterized by admirable craftsmanship in textiles ceramics metallurgy and minor arts by high development of art styles and in most places by the erection of massive architectural structures Agricultural techniques the basis of existence were highly advanced with their concomitants of extensive agricultural engineering features

Dwelling houses were now relatively comfortable permanent structures of adobe bricks or stone and immense public works temples and forts were built in most regions except the south coast. Skull deformation was a general practice and trephining was very common especially on the south coast

Religion had apparently become highly developed and organized with a priesthood and a pantheon in which anthropomorphic deities especially a feline were prominent Nature and ancestor worship seem to have been rather universal as were human sacrifices and the taking of trophy heads Worship was probably largely by ritualistic ceremonies and dances

The increase in population must have been great but competition was not so great as not to afford plenty of leisure time which the various groups utilized in cultural development according to the local pattern in rest and relaxation and in improvements in technology

No cultural remains of this period have yet been identified in the central highlands later to become the cultural centre of Peru in the Inca period but in both the northern and southern highlands there were culture centres that are ascribed to this horizon Apparently however the major civilizations continued to be on the coast In addition to this fact, the objects there are much better preserved and consequently much more excavation has been done there both by native *huaqueros* and by archaeologists

In this period flourished the two native cultures that have probably furnished the major part of the outstanding Peruvian ceramic art products that to day grace the museums of the world and awake the admiration of artists and craftsmen. the Moche of the northern coast, and the Paracas and Nazca of the southern coast.

The Moche culture has been known mainly by its extra ordinarily naturalistic ceramics for a long time but it was formerly termed Proto Chimu or Early Chimu since it preceded the historically known Chimu empire in the same region The civilization centred in the valleys of Chicama Moche Viru and Santa and also extended southward to Nepena and Casma and northward to Pacasmayo It had almost certainly been extended by military conquest The irrigable are s of these valleys were utilized for agriculture while the temples and the great grave yards from which quantities of exquisite pottery and other artefacts have been extracted were placed on the desert edges of the cultivated fields this was generally true of the villages also

Terrestrial wild animal life was still present but was probably of slight economic importance to the Moche though they took as much advantage of it as possible using nets javelins and spear throwers and blow guns Judging by the scenes depicted on th pottery however hunting had largely become a sport of the privileged classes The domesticated llama and guinea pig provided most of the meat diet Naturally sea food in the shape of fish shellfish and even sea lions was a welcome addition to the vegetable diet and its procurement was an important, though doubtless unspecialized industry Small one man boats or *balsas* probably identical with those used to day were made of *totora* reed Men ventured in these a considerable distance to sea to fish with lines and hooks without barbs or with harpoons or to spread their nets supported by gourds Large *balsas* holding several persons like those used to day on Lake Titicaca were apparently also made

The basis of existence however was agriculture and this had been brought to technical perfection Irrigation works most of them now long since abandoned but a few still in use watered almost every possible acre of land and doubtless supported a much larger population than lives in these valleys at present In some places however potentially fertile land seem to have been unused indicating that the population had not reached its maximum and that the pressure of population was not very great Aqueducts and canals were made in every valley some of them

immense engineering projects that required not only an enormous amount of labour to carry out but a high degree of knowledge and experience to plan. Thus La Cumbre canal still in use to day conducts water from the headwaters of the Chicama River to near the mouth a distance of about 75 miles (113 km) Aqueducts were built to carry these irrigation canals across intersecting ravines The aqueduct at Ascope also in the Chicama Valley is one of the great engineering triumphs of ancient Peru it is nearly a mile (1400 m) long fifty feet (15 m) high and has a cubic content of over a million cubic yards (783 000 cu m) of earth

By this time all the known Peruvian food plants had been brought under cultivation and developed to practically their final stage of perfection The major crops were corn (maize) beans peanuts potatoes sweet potatoes chilli peppers yucca (manioc) pumpkins gourds cotton and coca as well as avocado tuna granadilla chirimoya guanabana tumbo papaya pineapple and the lesser known pacai lucuma jiquima yacón achira pepino quinoa oca mashua lupin ulluco and canahua Some of these were unknown previously The latter six are not found on the coast but restricted to the highland The fermented beer chicha, was made from corn, probably exactly as it still is to day Guano fertilizer was employed and the agricultural tools the digging stick and the hoe were the same as those used by the Inca many centuries later

Our information on the Moche culture is rather fuller than that on other civilizations of this early period because in addition to the many actual objects found in the graves the very naturalistic modelled pottery and the dynamic scenes painted on some of it afford much data on many phases of native life

Civic planning was not yet a cultural feature and the Moche villages were groups of houses arranged haphazardly The houses judging by pottery models of them as well as by the actual remains were rather small but consisted of several rectangular rooms Some were built on terraces and some had open patios The roofs were gabled and thatched with straw supported by wooden posts and with openings for smoke and ventilation The walls were of large rectangular adobe bricks made in moulds

the surface frequently decorated with arabesques but the lower foundations were generally of rough stone

The Moche erected enormous temples the most impressive of these being the great twin pyramids at Moche not far from the present city of Trujillo they are locally known to day as the Huaca del Sol (Temple of the Sun) and the Huaca de la Luna (Temple of the Moon) Both consist of terraced platforms and the larger that of the Sun is surmounted by a terraced pyramid all solidly built of adobe bricks in astronomical numbers The Huaca del Sol is the most stupendous structure on the coast The base platform measures 750 by 450 ft (228 by 136 m) and is 60 ft (18 m) high rising in five terraces A causeway 20 ft (6 m) wide and nearly 300 ft (90 m) long leads to the north end and a stepped pyramid 340 ft (103 m) square and 75 ft (23 m) high surmounts the southern end of the platform It has been estimated to contain 130 million adobe bricks The Huaca de la Luna lacks the pyramid and the platform is smaller 260 by 195 ft (80 by 60 m) and 70 ft (21 m) high On the top are remains of a few rooms whose walls bear traces of frescoes painted in black white red yellow blue pink and brown in typical Moche design motifs (Plates 1B 2A)

Smaller isolated pyramids of adobe bricks are found at most of the other Moche sites some of them are decorated with arabesques in clay relief Murals painted in colour and showing human figures very similar to those found on painted Moche pottery vessels have recently been uncovered at Panamarca These great sub structures certainly served as foundations for temples traces of some of which still remain Other large structures are presumed to have been forts since they are located in strategic places are often surrounded by walls and are entered by narrow steep stairs Roads of a standard width of 33 ft (9 8 m) seem to date from this period and platforms at intervals along them suggest that the later Inca pattern of relay messengers was already in vogue

The effigy figures on the pottery vessels as well as the objects found in the graves give us a good picture of dress and adornment in the Moche period As among most early peoples – and as in nature – the male was much more gaily attired than the

female. Women generally wore nothing but a long shirt and simple ear pendants Presumably when at work the ordinary man wore only a loincloth but the effigy figures of men doubt less garbed in their Sunday best show a great development of clothing and ornament probably distinctive of rank or occupation. In addition to the ubiquitous breechcloth they wore under shirts and underskirts beneath the more ornate shirts and skirts All were of course rectangular pieces of woven cloth, never cut or tailored which were fastened around the waist by woven belts The head dresses were very varied some just simple tur bans others very large and sumptuously decorated the latter apparently varied according to and indicated rank or office Doubtless bright-coloured feathers and apparently even stuffed birds and ornaments of gold and silver were attached to them Ear and nose ornaments necklaces and finger rings were probably more or less standard adornment for any man of any social position they were made of precious metals semi precious stones shell bone or almost any other suitable substance

Apparently the Moche wore no foot coverings but painted their feet and lower legs in a fashion that recalls boots and also sometimes painted the face and body with designs that apparently indicated rank or occupation There is no evidence of tattooing however

The effigy pottery vessel indicate that amputation bone setting and circumcision were practised by the Moche and that diseases were treated by the almost universal American Indian custom of sucking out the tangible object believed to be the cause of the illnes

Owing to the occasional though rare heavy rains in this northern coastal region and also the amount of saltpetre in the soil very few Moche textiles have survived even sufficiently to afford a good idea of the techniques though the effigies and painted scenes on the ceramics indicate that it was a highly developed industry and possibly even made on a quantity pro duction level Probably it was on the same high level of compet ence as in the other regions on this horizon with the exception of the south coast where the work was especially good All the usual techniques such as tapestry embroidery brocade

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or black on a cream slip well baked and polished, black vessels are rare.

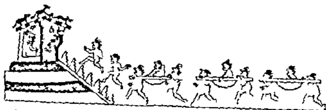
In a second group of stirrup-spouted vessels the upper part is plain but the body painted with realistic scenes such as war hunting fishing and ceremonial or diplomatic gatherings Here the representation is of groups of persons always shown in profile and in rapid dynamic action generally *running* While very much stylized and *not* approaching the modelled relief in realism they afford much data on the life of this early time of which we have not the slightest historical or traditional record and which could be secured in no other way The ceramics have been aptly termed a picture book of the culture (Figure 2)

There is considerable evidence – though still not enough to be convincing to most students – that the Moche had developed some system of writing or let us say non verbal communication [1] It was certainly not alphabetic phonetic syllabic or probably even pictographic and probably most nearly resembled in kind the *quipu* of later periods The message however was apparently incised on lima beans and could be interpreted only by a special class of persons trained in such decipherment How standardized were the ideograms we have no means of knowing They were probably limited to factual data no philosophical discussions could have been thus transmitted And probably the reader had to be familiar with the idiosyncrasies of the writer

Data on this question are derived almost exclusively from scenes on the painted vessels which show runners with a certain type of attire probably messengers in dynamic attitudes carrying small bags Other vessels portray beans painted in dozens of different designs and still others are modelled in the form of persons again with standardized characteristics and attire who seem to be studying the beans these men are presumably the decoders Similarly apparently painted beans on Nazca vessels suggest that the latter people may possibly also have had the same or a similar custom

The picture of the Moche afforded us by the archaeologists is that of a dynamic almost aggressive people far along the road to civilization They had evidently passed beyond the simple

1 Larco H 1 942 1943



F gu e z Draw j as en f om a M he pottery v s l Ch f n ho rving tu t s bo ne n litters

occupied an inferior position. No women are ever shown in scenes of ceremonies but only engaged in domestic tasks

The authoritarian pattern of the Moche when applied to the large population with leisure time in the agricultural off season naturally resulted in immense public works such as the great engineering irrigation features and especially in the enormous temple pyramids

Culturally and economically the life of the inhabitants of the central coast valleys probably differed little from that of the Moche but since their products were not outstanding less attention has been paid to them though considerable excavation has been done in this region especially at the great cemetery at Ancón and the famous temple at Pachacamac. No effigy vessels or painted scenes give information on the life of the people As in the northern region immense pyramids of adobe were built evidence of community activity under direction or authority Handicraft was good but not impressive Ceramics were aesthetically unimportant as compared with the products of the north and south coasts The sequential temporal phases are generally known by the pottery types characteristic of them of interest and importance to few but professional archaeologists

The valleys of Chancay Rimac and Lurin fall together culturally – and probably historically – and are considered as forming the Central Coast culture The valleys of Supe Paramonga and Huarmey to the north are also generally included in this group but are not so typical nor so well known for the early periods

Little is known of cultural developments except the changes in the ceramic types that characterized them and by which the

The Necropolis a large enclosure in the midst of buried semi subterranean houses and refuse pits was evidently a cemetery for a special class and differed in many respects from the Cavernas The bodies were all of elderly men probably chiefs or priests The skulls were deformed but in a different manner from those in the Cavernas vaults none of them was trephined The bodies were well preserved in contrast to those in the Cavernas

The nude body was placed in a seated position in a basket and long cotton cloths wound around him These shrouds of cotton cloth are not so well preserved as the woollen textiles but are remarkable for their size Whereas cloths wider than about four feet, the span of a weaver s arms are practically unknown elsewhere in Peru these are sometimes thirteen feet (3 9 m) in width and eighty four feet (25 5 m) in length [1] The wide loom may have been manipulated by several women Many of the bundles showed that they had been completely wrapped and finished several times by adding new layers probably at several successive ceremonial occasions

Tucked into the bundle were articles of clothing generally new and unworn as well as ornaments weapons food pottery vessels pet animals industrial materials and similar objects Miniature clothing feather fans ornaments of sheet gold smooth sticks or batons gourds and a few pottery vessels were among these objects Among the food placed for the dead were corn beans peanuts yucca and sweet potatoes. The four standard articles of clothing were cloak or mantle short cape skirt and headband, but in the richer bundles many other articles were added such as small ponchos kilts turbans and other headgear veils and slings these were mainly of llama or vicuna wool and very well preserved Of the magnificent mantles we will speak later As many as one hundred and fifty articles of clothing and other offerings were placed with the large bundles

The pottery of Paracas Necropolis – always our best criterion – differs considerably from that of the Cavernas with thin walls of a light colour and without painted decoration the shapes of the mortuary ware variant but relatively simple with some

[1] O Neal 1936

cemetery was obviously for men of high rank who were probably brought there from some distance as the region of the cemetery is absolutely unsuited for human existence at least at present

The fact that the temporal relations of the two cultures of Paracas are still a question for discussion well illustrates the present uncertainty on many vital points of Peruvian archaeology The yet unpublished reports from Dr Strong s 1952 expedition indicat that in the Nazca region the refuse of that period is underlain by in places ten to thirteen feet (3 to 4 m) of deposits containing pottery and textiles of both Paracas types intermingled together with some other types heretofore unknown This would suggest the contemporaneity of the two Paracas cultures Since the reports are not yet available in full to students however I have felt it best here to present the older point of view

While the stratigraphical evidence in the Nazca Valley more than a hundred miles south-east of Paracas indicates clearly that the Paracas cultures preceded the Nazca and possibly gave birth to the latter the temporal difference cannot be great. Paracas textiles show demoniacal figures almost identical with those on Nazca ceramics It is likely that the Paracas Necropolis culture was contemporary with the earliest phase (A) of Nazca though regional differences exist, as would be expected since Paracas Necropolis may be characteristic of th culture of the Pisco Valley

The Nazca culture was unknown until 1901 when it was discovered by the old master of Peruvian archaeology Max Uhle Before that time only five of the beautiful Nazca polychrome pottery vessels of unidentified provenience were known in museums A decade later practically all the graveyards had been almost completely looted and all great museums boasted of large collections of Nazca ceramics

While of coastal type of culture the Nazca were not a littoral people The fertile valleys in this region are some fifty miles inland the intervening area being occupied by a desolate and range of hills and sand in which the rivers disappear

Until 1952 no extensive excavations had been made in the Nazca region and practically nothing was known except the

effigy shapes and biomorphic relief The goldsmiths in this region seem not to have yet learned the technique of casting but work of a high aesthetic and technical quality was done in ornaments of thin beaten gold with repousse ornamentation

But it was in the field of textiles that the Paracas craftsman ex celled the name Paracas means to the archaeologist and the artist magnificent cloths This renown is due to their large si e, their wonderful state of preservation – some of them being practically as soft and brilliant as the day they were woven and the harmonious beauty of their colouring The techniques em ployed are few – mainly embroidery and finer work was done in other periods but for general over all superb effect Paracas Necropolis textiles rank with the world s best

The magnificent Paracas mantles must be seen to be ap preciated for no description can do justice to them They are large averaging four and a half by eight feet (1 3 by 2 5 m) The background is a loosely woven wool or cotton cloth on which are embroidered figures in wool in soft harmonious polychrome tones Four to six colours were generally employed and both the colours and the figures themselves bear an obvious close rela tionship to those on Nazca pottery The embroidered figures are small and repeated many times in various colour c mbinations in horizontal and vertical bands or in chequerboard pattern Anthropomorphic animal deities probably mythological beings with stylistic animal characteristics more naturalistic animals and occasionally geometric motifs are employed Fish and bird deities seem to be the most popular The workmanship is perfect, and the effect both macroscopic and microscopic is colourful and – to us – exotic (Plate 49)

These magnificent textiles seem to have been made purely for mortuary purposes The amount of work on them is marvellous for some are almost completely covered with a veneering of em broidery meticulously done The stitching closely follows the weave each stitch enveloping one warp or weft trand

The occupation sites the towns of the people who buried their dead in the Paracas Necropolis have yet to be found they may have been those of the population of the Pisco Valley whose habitation sites have not yet been discovered The Necropolis

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association of grave contents. Brief reports have clarified the picture greatly, and much more information will soon be available.

The Nazca culture developed directly out of the Paracas apparently without change of population. The evolution *may have* taken place in the Nazca region where Nazca sites are underlaid by ten feet (3 m.), at times, of typical Paracas refuse with intermediate stages. No large structures were built of adobe and there was no stone masonry of this period, but small houses were built with adobe walls. While there were *no known large towns* the houses tended to cluster in small village-like groups. Also prominent natural features were covered with adobes, *making small* pyramids and terraces. The adobes used in construction were variable in size and form, from conical to pancake shape, and were combined with wattle and daub to build the houses. There was apparently great building activity in the earliest Nazca period.

Owing to the absence of effigy vessels and painted scenes our knowledge of Nazca life and customs is far less than that of the Moche, its northern contemporary. But the general picture seems to be one of a sedentary democratic people without marked class distinctions or authoritarianism, possibly without an established religion. There is less difference in the richness or poverty of the graves, and women *seem to be on an equality with* men in this respect. The apparent absence of great public works, of extensive engineering features, and of temple pyramids implies a lack of authoritarian leadership. Instead, the leisure time of the people seems to have been spent in individual production, *especially in the making of quantities of perfect, exquisite textiles* and pottery vessels. This seems to indicate a strong cult of ancestor worship. Cloths on which an *incredible amount* of labour was spent were made especially for funerary offerings and interred with the dead. The orientation seems to have been towards individualized religion rather than towards community participation, dictation, coercion and aggression.

The Nazca graves are generally bottle-shaped with a shaft running down to a chamber which may be at a depth of anywhere between close to the surface and fifteen feet (4.5 *m.*). Many of the skulls show longitudinal deformation, and the bodies

give evidence of the practice of tattooing The flexed bodies were wrapped with cloths which are well preserved and of excellent quality though not equalling the exquisite products of Paracas Many beautiful polychrome pottery vessels and other objects of mortuary furniture were placed in the graves

Lovely best describes Nazca ceramics The shapes are few and usually simple with little relief though some effigy modelling is found in contrast to Moche the emphasis is on polychrome painting with polished surface (Plate 28) As many as eleven soft harmonious pastel colours may be employed on one vessel black white violet grey flesh-colour and two shades each of red, yellow and brown the absence of blue and green is note worthy The motifs seem to fall into two main categories naturalistic biomorphic and mythological The former are re peated figures of birds fish insects vegetal products and similar objects They are obvious yet stylized naturalistic but not realistic or pictorial Other designs depict monstrous or anthro pomorphic animals presumably deities in which the char acteristic features are emphasized one of the most frequent of these is a feline apparently with a mask Bowls are the com monest forms also spheroid vessels with two short vertical spouts connected by a bridge

Nazca ceramic styles are seen in four sequential phases A, B and Y with X a medial stage between A and B The last stage Y is decadent and slovenly but shows some influences from out side *mainly* those of the next Huari Tiahuanaco period An other proposed classification is based on the prevailing design according to this a Monumental or Cat Demon style de veloped into a Cursive or Cactus Man style

Nazca textiles are lovely and admirable Progress is shown by the larger number of techniques in fact practically every one of the many Peruvian textile processes was known to the Nazca weaver no important one was later invented Embroidery tapestry brocade gauze and warp or weft patterns were the most common Painted cloths are also found Three dimensional needle knitting was popular Wool imported from the high lands was more used than the native cotton As with the cer amics the range of colours was enormous and amazing As many

as 190 tints on the scale in seven main colours have been identified in early Nazca fabric though some of these may be due to differential fading The design motifs also bear some resemblance to those on the pottery vessels

Metallurgy on the other hand was retarded being far less developed than in the Moche region Only gold was known and the people seem to have been ignorant of – or untrained in – the technique of casting Dainty ornaments were made however by the old process of hammering the metal into thin sheets cutting it into graceful shapes and decorating it with embossed or repousse designs

The taking of human heads – probably from enemies in combat – was a striking element of Nazca culture These are depicted in ceramic and textile designs and have also been found in the tombs flattened painted and attached to slings for carrying

The largest Nazca site or most thickly occupied area the putative capital is at Cahuachi on the lower middle Nazca River just before it enters the first gorge in the sterile hills The word enormous is applied to it but its actual area is not on record Just at the gorge is a remarkable site known as La Estaquera Spanish for the place of stakes This has been aptly termed a wooden Stonehenge On a level sandy area quantities of trunks of trees *algarrobo* and *huarango* have been planted in orderly rows and masses The greater number are in a quadrangle of twelve rows of twenty posts each about seven feet (2 m) apart, and there are lines of post and a few posts of much larger size, adjacent Although the aligned posts are merely columns most of the single ones have forked tops and almost certainly supported a roof or canopy The wood is still hard and firm – and after at least a half and probably a full millennium or more! For the structure is clearly pre Spanish and the surrounding graves are of Nazca period Presumably they are late probably Nazca Y but they may be much older there is no evidence (Plate 88)

In the absence of any written records or historical traditions we can know little or nothing of the degree of scientific knowledge of the more ancient peoples of Peru such as for instance their knowledge of astronomy But celestial phenomena have always been of the greatest importance to early peoples especi

ally to farming folk who needed to know the progress of the seasons, irrespective of the vagaries of the weather in order to plan their times for planting and harvest The surprisingly accurate astronomical and calendrical knowledge of the Maya is revealed to us almost in its entirety mainly by one old book or codex that luckily escaped the holocausts of the Spanish Conquest. Although the Peruvians were apparently not so calendrically minded as the Mesoamericans it is likely that all the more highly cultured peoples of America were not much inferior to the Maya in their astronomical erudition and were far better informed than is generally credited

Just as in a number of other regions the orientation of edifices and other structures has thrown some light on the astronomical knowledge of their builders so in the Nazca region the ancient peoples left on their land tangible and intelligible evidences of their int re t in and knowledge of this subject. This has been one of the most interesting surprising and unique discoveries of recent years in Peruvian archaeology and a direct result of aeroplane observations [1]

In the Nazca region at some distance from the sea and mainly on both sides of the Palpa Valley is a stretch of tableland free of the sand that envelops the coastal region and covered with small broken stones It is about forty miles in length a mile or more in width Rain is unknown and the sunshine is practically eternal Locally it is called a *pampa* though not a blade of vegetation can be seen The changelessness of the region is incredible Marks furrowed on the surface several years ago look as though they had been made the day before a bit of paper lost by a previous expedition seems to have just been dropped

The small stones that cover the surfa e probably contain iron and the suns of many millennia have formed a dark patina on their upper faces These stones were removed from certain areas by the ancient peoples and piled at the edges of these places leaving designs in the lighter-coloured sand and gravel below Long straight narrow lines radiate from hills mounds and other stra egic points Many lines are parallel others cross and crisscross Large rectilinear trapezoidal spaces were also cleared, and

1 Re ch 1949 Kosok and R ch 194 1949

there are furthermore a number of spirals and large figures of animals (Plate 9A) These latter give clear proof of the identity of their makers if more evidence were needed other than the region and the occasional fragments of typical Nazca pottery found on the surface looking as though the vessel had just been broken For the great figures on the surface of the land probably representing divinities are in the same art style as those on the surface of the potsherds typically Nazca

These figures it must be remembered are very large and made on flat ground There is no near by elevation and they can be seen to good advantage only from the air from an aeroplane or balloon Doubtless they were made to be seen by celestial deities Their delineation however brings up some intriguing suggestions and possibilities How were they made so perfect without being seen in proper perspective? The makers must have known much about proportions Could they have worked from a small model on a grid?

The lines and figures are now being carefully studied and measured but no final definitive report on them has yet been issued Some of the straight lines at least seem to verify the presumptive hypothesis that they were astronomical pointing towards solstitial and equinoctial points or towards other important rising or setting places As such they could have served as a farmer s almanac or calendar indicating the seasons The problem is a very difficult one owing to the great number of such lines However the measurements of the lines apparently indicate the linear standards of these people The latest report from Miss Maria Reiche is to the effect that from one centre ten feet (3 m) square twenty three straight lines radiate two are solstitial lines one equinoctial Most of them are 595 feet (182 m) long Some lines are found of half or quarter this standard Another frequent measurement perhaps another standard is eighty five feet (26 m)

Throughout the early periods information concerning the Peruvian highlands is far less than that concerning the coast largely because on account of the rains objects of organic materials are not preserved and therefore little digging has been done by natives Scientifically controlled excavations have also

been fewer than on the coast The little evidence seems to indicate that the culture in the two regions was about equally high though naturally the economic life differed considerably Less is known of course about the cultural evolutionary development. The sequential phases are placed in the several periods mainly on the basis of the coastal evolutionary periods with which they seem to correspond in time This is admittedly unproved.

In the northern highlands toward the end of the Experimental period the interesting ceramic technique of negative painting was introduced and later came into great vogue This also is considered a horizon style since it was known in all the coastal cultures It became of maximum importance however in the northern region especially in the northern highlands where it is the characteristic ware of the Recuay culture generally assigned to the Florescent period. This Recuay ware one of the better known types of Peruvian pottery is of many varied shapes many of them modelled life forms somewhat similar though much inferior to Moche pottery The surfaces are often decorated with very stylized rectilinear animal designs in which the jaguar predominates There is also another type of Recuay ware known as Recuay B painted in positive designs this seems to be on the whole later than the negative painted Recuay A (Plate 29A)

The vertical extent of the architecture that was a characteristic of this region in earlier days probably continued into this period that is to say two and three-storey temples with heavy slab roofs and subterranean houses and galleries with as many as two storeys underground built mainly of stone slabs and entered by vertical shafts Stone sculpture missing on the coast is also very characteristic of this region and period The figures are probably those of deities but are decidedly ungraceful and archaic being massive and columnar or ovoid with low relief and vestigial limbs There are also carved slabs and lintels in a rather different art style Ornaments and tools of copper have been found in the graves but of course textiles and other objects of organic materials have long since disappeared.

Strange to say no site of this period has yet been identified in

1 Schaedel 1948b 1948c

there are furthermore a number of spirals and large figures of animals (Plate 9A) These latter give clear proof of the identity of their makers if more evidence were needed other than the region and the occasional fragments of typical Nazca pottery found on the surface, looking as though the vessel had just been broken For the great figures on the surface of the land, probably representing divinities are in the same art style as those on the surface of the potsherds typically Nazca.

These figures it must be remembered are very large and made on flat ground There is no near by elevation and they can be seen to good advantage only from the air from an aeroplane or balloon. Doubtless they were made to be seen by celestial deities Their delineation however brings up some intriguing suggestions and possibilities How were they made so perfect without being seen in proper perspective? The makers must have known much about proportions Could they have worked *from a small model on a grid?*

The lines and figures are now being carefully studied and measured but no final definitive report on them has yet been issued Some of the straight lines at least seem to verify the presumptive hypothesis that they were astronomical pointing towards solstitial and equinoctial points or towards other important rising or setting places. As such they could have served as a farmer s almanac or calendar indicating the seasons. The problem is a very difficult one, owing to the great number of such lines. However the measurements of the lines apparently indicate the linear standards of these people. The latest report from Miss Maria Reiche is to the effect that, from one centre ten feet (3 m.) square twenty three straight lines radiate; two are solstitial lines one equinoctial. Most of them are 59, feet (18 m.) long Some lines are found of half or quarter this standard. Another frequent measurement, perhaps another standard is eighty five feet (26 m.)

Throughout the early periods information concerning the Peruvian highlands is far less than that concerning the coast, largely because on account of the rains objects of organic materials are not preserved, and therefore little digging has been done by natives Scientifically controlled excavations have also

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[1] Schaedel 1948b 1948

pally in the lowest stratigraphical cuts at Tiahuanaco it differs markedly from Classic Tiahuanaco in shape and design It occurs in the refuse heaps of dwelling sites which probably stood on the site of Tiahuanaco before this was made into a great ceremonial centre No architecture or sculpture has been identified as belonging to this period though a few statues in Bolivia that bear some resemblance to Pucara are assigned to the Early Tiahuanaco culture and period In addition to pottery fragments many implements of stone bone copper and other similar materials were found in the excavations

Early Tiahuanaco has a small area of distribution Decanters and bowls are the most frequent of the few simple shapes The painted decoration is either red on buff or polychrome with black white red brown orange and yellow the designs mainly rectilinear geometric but with some animal motifs There is little or no modelling but a little incised decoration The surface is highly polished

Other estimates of the Florescent period accord it a time span of six centuries or so but place it much later – A D 400–1000 instead of 300 B C – A D 500 as here accepted

Lest the reader who may have thought of all pre Columbian Peruvians as Inca be surprised at the number of apparently independent and unique cultures in prehistoric Peru it may be stated that possibly as many other cultures still remain to be discovered Relatively few scientific archaeological excavations have been made in Peru and large parts of the country are practically unknown archaeologically because the paucity of saleable objects that might be recovered has not tempted natives to dig Future excavations in new sites may be expected to reveal many new cultures each with its specific type of architecture ceramics and other artefacts Doubtless their languages religions and social customs were equally different of these we will never know anything The economic basis of life however was probably practically the same throughout the highlands at any given time the same is true of the coast

the central highlands if the culture found at Chanapata near Cuzco is properly assigned to the preceding period Such sites must of course exist and remain to be discovered or identified

In the southern highlands resemblances in ceramics and some other features indicate that the Experimental Chiripa culture developed into several later phases among them the Pucara and the Early Tiahuanaco these latter are generally ascribed to the Florescent period

Pucara is a site in the Department of Puno Peru between Cuzco and Lake Titicaca the architecture ceramics and sculpture are characteristic and unique [1] As is the case with all the Peruvian cultures up to at least this time we know nothing of the history of the people who lived there not even their name or language Inca traditions do not mention them our knowledge is restricted to the data derived from digging and the deductions made therefrom

Pucara has the basic elements of the earlier and neighbouring Chiripa plus a strong influence of the Tiahuanaco region The structure excavated by Alfred Kidder II built of very good masonry of dressed stone with some use of adobe was almost certainly a temple A sunken central court is surrounded by walls forming a horseshoe shaped group of small rooms In this central court four burial vaults made of dressed stone blocks and entered by means of a doorway and steps were found Each of these vaults contained a stone altar

Stone sculpture is a characteristic element of Pucara This is much better made than the stone carving of the northern highlands Human and animal figures are found as well as carved stelae and slabs (Plate 18B) The pottery in form and motif is of Tiahuanacan type with wide mouth bowls and goblets predominating These however are painted in yellow and black on a red slip with the outlines incised Many of the vessels are further decorated with a large feline head in high relief the body in flat profile The ceramic has some resemblance to the earlier Chiripa and a little to the Early Tiahuanaco

Probably contemporary with Pucara was Early Tiahuanaco This is little more than a pottery type which was found princi

1 Kidder 1943 1948

generally credited some loose political force may have accompanied the spread of the Tiahuanaco cult At any rate it seems to have been a period of unrest with an increase in expansion aggression and conquest and some warfare between neighbouring local groups This was probably a result of a strengthening of political organization and more centralized power within the groups It was apparently not due to population pressure for there seems to be some evidence of a decrease in population at least on the coast although it was still large

The Tiahuanaco influence while strong was not an engulfing or permanent one The local regions retained their individualities and, towards the end of the period the rather uniform art style disappeared like a fashion and the local cultures re emerged as quite separate entities each with its own peculiarities

TIAHUANACO

Mystery and glamour have always hung about the ruins of Tiahuanaco (Plate 10) It has been claimed to be of immense age the place of origin of all American if not of all world civilizations [1] Some fanatics even have it originally on an island then sunk beneath the Pacific and finally uplifted together with the Andes, i tact to its present height! Even solid scholars have until recently believed it the seat of a great forgotten Megalithic Empire Discarding all such theories silly or plausible enough of mystery remains to intrigue and puzzle the unimaginative archaeologist.

Tiahuanaco lies at a height of about 13 000 ft (c 4000 m.) an altitude exceeded by few Alpine peaks and by only a very few in the United States it is thirteen miles (1 km) south-east of Lake Titicaca the world s highest navigable lake (12 506 ft) Bleak, chilly a practically treeless *puna* too high for intensive agriculture it is the last place in the world to expect a great stupendous archaeological site No wonder many mystics have felt sure that the climate and environment must have been much less rigorous when it was in its prime No credible traditions refer to it. To-day the scattered families of Aymara Indians pasture their

[1] Posnansky 1946

Chapter 6

THE CLIMACTIC ERA

c A D 500–1532

THE Climactic Era comprises the final periods of Peruvian culture history Material culture had reached its maximum development and probably population also The pattern of life was urban militaristic probably socialistic. Most of the groups and tribes were probably united into a few large nations or empires between which there was violent competition if not war Beginning with the Expansionist period preceding the Urbanist period with a few such large nations it closed with the Imperialist period of the all embracing Inca empire A final Colonial period following the Spanish Conquest by Pizarro might be added

The Expansionist Period

c A D 500–1000

A horizon art style dominates and characterizes this period termed Expansionist or by some Fusion This style apparently emanated from the highlands and is best typified at the great site of Tiahuanaco from which it takes its name The influence probably that of a religious cult that had its centre at Tiahuanaco spread to almost all parts of Peru and is obvious in the art styles of the various regions It thus recapitulates the influence of the much earlier Chavín cult. It apparently originated and reached its apogee in the highlands in the earlier part of this period later it reached the coast where the style was formerly known as Epigonal For reasons to be explained later this horizon art style is known as Huari Tiahuanaco The horizon is often termed the Middle Period The classic Tiahuanaco of the highlands apparently did not develop from the Early Tiahuanaco of that region the styles are considerably different

While a Tiahuanaco or Megalithic Empire is no longer

Puncu the latter is another platform structure Both of these contain large stone slabs and blocks well dressed and fitted some of them estimated to weigh more than one hundred tons Smaller broken monolithic gateways are also common. A few well built subterranean chambers have been found

Both basalt and sandstone were used in the construction of Tiahuanaco and the nearest quarries of the latter are three miles (5 km.) from the site The stone work is unusually well done with smooth faces the great blocks perfectly fitted together They are sometimes held together more firmly by notches or – something new and unique in Peruvian masonry – by copper cramps T shaped depressions were cut into adjacent sides of two stone blocks but it is not known whether copper objects made to fit were hammered in or whether molten copper was poured into the grooves and allowed to harden there

Tiahuanaco is also famed for its great human statuary The largest of these was unknown until 193- when it was discovered by the American Peruvianist Wendell C Bennett [1] in the course of his excavations it was carried to La Paz and erected in a plaza there This tall forbidding figure of red sandstone is over twenty four feet (7 3 m) in height, and from forty two to fifty inches (1 05 to 1 27 m.) in width and thickness The low relief art is symmetrical, stiff and very characteristic of the site and period (Plate 11)

It has been suggested that the site was a great ceremonial centre to which came a large part of the population of the region on regular rare pilgrimages at which times they worked under expert supervision on the constructions this implies a well organized and regulated society with limitless manpower approaching that of the later Inca The structures were apparently still uncompleted when work on them ceased.

Few excavations have been done at Tiahuanaco or in its general region. Though textiles are not preserved here those of this period and type found on the coast suggest that the art was on a high plane especially in the making of tapestries Much of the stone carving in relief is in textile motifs High-class work was done in gold silver and especially in copper

1 Bennett, 1934

the coast than Tiahuanaco itself recent studies have suggested that this may have been the site of Huari and to indicate this archaeologists to day refer to the Huari Tiahuanaco influence or style

The present status of archaeological research in Peru is well exemplified by Huari or Wari Though mentioned by Cieza d León in 1554 as a pre Inca site under the name of Vinaque it was forgotten until rediscovered by Tello in 1931 only in the last decade has it been investigated [1] Huari is a large site in the pro vince of Huanta, department of Ayacucho The ruins may cover as much as four square miles with quantities of walled en closures and the remains of buildings and houses Some of the walls tower to a height of twenty five feet (7 to 8 metres) All are of masonry made of rude field stones laid in mud and originally faced with mud plaster The buildings seem to lack both doors and windows and in this respect as well as in the type of masonry and general appearance the site bears much superficial resemblance to Pikillacta near Cuzco Only a very little cut stone was used here in great contrast to Tiahuanaco A number of carved stone statues however have been found these resemble those of Tiahuanaco more closely than any others but there is considerable difference Obviously here was a great residential city not mainly a ceremonial site

As usual it is the ceramics that afford the clue to the tem poral placing of Huari There are a number of types covering a considerable time period but two groups of polychrome ware bear a very close resemblance to Coast Tiahuanaco pottery and to the Late Nazca Y type presumed to date from the Tia huanaco period Possibly therefore the Tiahuanaco influence spread to the coast from Huari Logically however large cities like Huari and Pikillacta should belong in the next Urbanist period

The best picture of the Expansionist Huari Tiahuanaco hori zon period is as usual secured from the coastal sites where the preservation of material objects is best and where cemeteries are found No great edifices were erected but use of the older ones continued Excellent textiles of wool and cotton continued

1 Bennett 1953a Row Collier and Willey 1950

In the northern highlands are small sites in the Chavín architectural tradition but assigned to this period because of the associated ceramics Wilkawain near Huaraz the most important of these consists of a stone temple and a number of other one and two-storey stone houses[1] The temple is a small replica of the Castillo at Chavin with three floors interior staircases ramps galleries rooms and ventilation shafts there are seven rooms on each floor The great roof slabs are placed sloping so as to form a gable roof but this is covered with dirt and stones to form a sort of dome The temple measures about thirty five by fifty two feet (10 7 by 15 6 m) It is much less known even than Chavín and few of the rooms have been entered for most of them are filled with stones and other debris which must have been brought there for this purpose The principal rooms are large measuring more than seven by twenty two feet (2 25 by 6 8 m) and over six feet (m) high

A very distinctive pottery type of which more should be known is what is called the Maranon style The characteristic shape is a tripod plate rather flattish and supported on three long conical feet. This form so common in Mexico and Central America is otherwise practically unknown in Peru Shallow bowls are also found both types painted on the interior in rather fine lines of reddish tints generally curvilinear and depicting demoniacal animals as well as geometric elements The ware is often also termed Middle Huamachuco as it is found also in the far northern highlands near Huamachuco and Cajabamba

In the southern highlands following classical Tiahuanaco times and the Middle Period the ceramics became poorer just as on the coast and are known as Decadent Tiahuanaco The designs are carelessly made the colours fewer and dull The classical Tiahuanaco design elements are retained but employed separately independently and not as parts of complete designs such as pumas

The five centuries here allowed for the Expansionist period A D 500 to 1000 is considerably longer and earlier than that accorded it by equally good authorities of another school of thought A D 1000 to 1300

1 Bennett 1944

to be made and the tapestries of this period are the finest ever made in Peru that had become the most popular technique but many others were known and practised Some new metallurgical methods such as silverplating had been developed

Huari Tiahuanaco influence as evidenced mainly by the horizon art style is found in all the coastal areas as far north as Chicama (but not in Lambayeque) especially at Chicama Moche Viru Supe Chancay Ancón Nieveria Pachacamac Canete Chincha Ica and Nazca The impact on the peaceful Nazca culture was strong practically absorbing it while it affected only slightly the vigorous Moche who soon threw it off and re established their own pattern

Archaeologists divide the Coast Tiahuanaco or Middle *period into two sub periods* A *and* B *characterized by pot*tery styles A is the Huari Tiahuanaco influenced polychrome style generally known on the coast as Epigonal At Ancón it is known as Middle Ancon I Each site had its particular modification of this ware The shapes of coastal Tiahuanaco vessels however differ much from those of the highlands only the goblet and the cup are similar and vessels with long upright spouts especially double spouts are common Epigonal pottery is very well made highly polychrome with rather elaborate designs (Plate 31A)

The influence of Tiahuanaco ceased with the Epigonal style for the succeeding B style known to Peruvianists as Black White Red is very different local variation that are known as Middle Ancon II and Late Ancon I The latter is a quasi horizon style found over much of northern Peru It has no congeners however in the central and southern highlands The ware is definitely decadent softer unpolished with simple poorly *executed designs in fewer colours The shapes are also* simple with little if any modelling in life form and the painted decoration is almost exclusively geometric (Plate 28)

The influence has not been definitely recognized in the central highland Cuzco region but can hardly fail to have been present As we have seen the site of Pikillacta near Cuzco of *still* unidentified period bears some resemblance to Huari definitely of the Tiahuanaco *period*

and south at least to Casma (Plate 5A) Every valley had its urban centre but the capital of the Chimu was Chanchan in the environs of the present city of Trujillo [1] Chanchan is a stupendous site – and sight The ruins cover over eight square miles filled – the major part at least – with great tall boundary walls smaller house walls streets, reservoirs pyramids and other edifices and features expected of a great metropolitan centre All are built of large rectangular adobe bricks The occasional torrential rains have eroded the tops of the great walls and covered their bases but they still tower to a height of some thirty feet (9 m) When the lower walls are cleared of the earth that covers and protects them, many of them are found to be covered with arabesque decorations in low relief and probably made by impressions of moulds (Plate 4) The designs are of small identical repeated motifs in rows and apparently derived from textile designs mainly geometric, but also with conventionalized animals When cleared – and unless protected – these arabesques of course are ruined in the next heavy rain. There are also some wall paintings

To-day the great city is deserted except for the occasional tourist s car traversing the narrow bumpy streets For the city was planned like a modern one with long straight streets meeting at right angles The visitor blessed with imagination can visualize them teeming with busy peopl the gable roofed houses full of the domestic sounds of women and children. In those days the city was probably green with trees but to-day the irrigation ditches filled up not a tree grows for miles around

The city was apparently composed of ten large units generally rectangular each probably the locale or ward of a clan or some other social group and the domain of a sub-chief Each unit is surrounded by one or more great high walls within which is a gridiron of streets with many small houses large pyramids – probably for temples reservoirs gardens and cemeteries In between the wards there were apparently irrigated and cultivated areas marshes cemeteries and some isolated small structures Some of the units are said to be as large as 1100 by 1600 ft (335 by 480 m) or about forty acres (Plates 2B 3)

Similar though smaller cities are found in each of the valleys

1 Holstein 19



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[1] H Istein 1927

The Urbanist Period

c AD 1000–1440

Toward the end of the Expansionist period whatever unity or homogeneity of culture the highland influence from Huari or Tiahuanaco might have produced began to lessen and local differentiation soon eliminated practically all traces of it The populations had now probably reached their maxima civic organizations were well developed and contentions for land, power and dominance began Fortified refuge places were built Villages probably contended for mastery and formed alliances and coalitions which in turn fought for domination until at las a few large commonwealths of considerable extent emerged. This was the pattern in many other parts of the world at similar stages of development but in other times

These minor nations might well be likened to medieval king doms they set the pattern for the Inca empire that soon con quered and consolidated all of them For contrary to the usual American Indian democratic proclivity there was apparently great stress on social stratification with noble and aristocratic classes and reverence for the chief leader or king

Most of our data for this period both historical and archaeo- logical refer to the coastal peoples especially to the Chimu of the northern coast for the big fertile irrigated river valleys there supported a large concentration of population whereas in the highland regions more uniformly watered the people probably remained somewhat more rural Nevertheless even in the high lands this seems to have been a period when the natives tended to gather into large urban centres with city planning It has therefore sometimes been termed the City Builder Period

Owing to the heavier rainfall on the north coast and the con sequent larger size of the irrigated valleys with their greater populations the largest and most important of the kingdoms that of Chimu developed on that coast and controlled a great area from Piura in the north to Paramonga in the south (Plates 5B 6) There is little doubt that military conquest extended the sway of the Chimu north to the Lambayeque and Piura Valleys

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Similar though smaller cities are found in each of the valleys

[1] H Horkheimer 1927

into wards each a town in itself with all necessary public buildings and utilities moreover indicates social subdivisions Also the great variation in the size and quality of the houses suggests social classes based on wealth or birth and the same is indicated by the differences in the quality of the burials Some of these are simple with few and poor gifts while others consist of large subterranean chambers with quantities of pottery vessels textiles ornaments and similar grave furniture These naturally being much younger are found in a much better state of preservation than the buried objects of the preceding Moche period

Everywhere in the Urbanist period craftsmanship had reached a high level of technical accomplishment and tended to become static and standardized the emphasis was on quantity rather than on quality There were few new inventions and the art products were uninspired. Textile and painted designs were typically in orderly bands and rows with a standard sequence of a few colours and generally consisted of repetitions of small geometric motifs and conventionalized animals

The Chimu produced no outstanding ceramic art. Like the Inca, it was standardized and lacked creative imagination. Similarly it is very characteristic and easily recognized As with Moche it was produced in great volume mainly in moulds and is well represented in most large collections of Peruvian ceramics Duplicates are common. The technique of manufacture had returned to the earlier reducing process of firing so that four fifths of the vessels are of polished black ware Few vessels are painted and these very rudely Most of the shapes are similar to those of the Moche the stirrup spout predominating but many other Moche forms had been given up Many vessels are effigies depicting life forms and activities but far less realistically than those of the Moche Scenic painting is gone Very characteristic are double vessels Each of the connected bottles has a spout and one of them is equipped with a whistle so that when the vessel is tilted and the liquid flows from one to the other air is forced out and a whistling sound produced (Plate 26)

Chimu pottery also retains some Coast Tiahuanaco elements but is basically rather degenerate Moche more stereotyped, and

Uhle on an expedition for the University Museum of Philadelphia By careful excavations Uhle distinguished graves of the Inca period from earlier ones and determined the types of artefacts diagnostic of the several periods [1] Uhle s work was continued by the great Peruvian archaeologist Dr Julio C Tello and a part of the ruins of the Inca period have been restored making the site within easy reach of Lima one of the must s e for the tourist to Peru

The Cuismancu empire is not so well known historically – or rather by tradition – as the Chimu and although the excavations at Ancón Pachacamac and other sites are famous the artefacts are also not so well known. The great aboriginal cemetery at Ancón only an hour s ride from Lima and now being developed as a suburban watering place has been dug in for centuries first by native looters and later by archaeologists and is still yielding quantities of mummies to the spades of government scientists [2]

Life on the central coast in this period was doubtless much lik that in the Chimu region and the handicraft was basically similar though differing in detail from place to place and time to time Most characteristic and diagnostic as usual is the pottery The most striking and interesting of these styles is the Chancay Black-on White especially typical of the site of Chancay but also known as Late Ancón II The ware is thin porous hard baked and red covered with a creamy white slip on which are painted designs in boldly contrasting sepia The shapes are generally simple silhouette especially large tall oval vessels with small orifices and bowls Very large pottery human figures are also characteristic The designs are most frequently geometric straight or wavy lines cross hatching or fields of dots but small animals or birds in a textile pattern are also found (Plate 32)

According to the chronicles a small empire the Chuquimancu occupied the Mala Chilca and Canete Valleys but thes are not so well known archaeologically and they apparently did not compose a cultural entity Nor is much known of their history

1 Uhl 1903

2 R is and Stubel 1880-7

manufacture of pottery vessels of typical and characteristic Inca shape such as the pointed base aryballus in local styles of paste and decoration

South of the Nazca region the rainfall the rivers and the inhabited areas are even smaller and the culture of the aboriginal population wa apparently lower Not much is known of the archaeology of this region but around Arequipa a type of pottery apparently on a late horizon is found which is believed to be more closely connected with the people and the culture of the Atacama region of Chile than with the Peruvian cultures to the north (Plate 33)

The Urbanist period is far less well marked or well known in the highlands than on the coast as has been noted before Since the inhabited areas were not restricted to irrigated river valleys the population were naturally not so dense or concentrated and capital cities would not be expected Nevertheless the ruins of a number of large ones exist In the northern highlands few excavations of this period have been made and there are few if any traditions The pottery is not very distinctive some of it being painted with red and black designs on a white slip some decorated with incised punched or appliqué designs The period here is known as Late Huamachuco No large cities are reported In the southern highlands and Bolivia this seems to have been the period when the high masonry *chullpas* burial towers made of admirable masonry were built (Plate 16B) This region was one of the first to be conquered by the Inca which may explain the apparent lack of Urbanist remains Both here and in the northern highlands all trace of Huari Tiahuanaco influence seems to have disappeared by this time

Towards the end of this period the highland peoples came into the ascendancy with the rise of the Inca in the central highlands The history of the next short period the Imperialist – really no more than a subdivision of the Urbanist is the history of the Inca

While the historical accounts of the chroniclers recount the early history of the Inca such as might be considered as falling in the Urbanist period these are obviously largely mythological and unreliable and differ greatly Archaeologically almost

In this period typically Inca objects are found in all regions or blends of Inca and local styles

The Inca is the third great horizon pottery style in Peru Like the others it appears suddenly in full vigour as if it had developed elsewhere but no developmental or proto Inca types are known it has all the marks of being in a late stage of ceramic evolution Conservatism and lack of imagination invention and initiative are apparent it is chaste and sedate The shapes are simple and limited to rather few which are unmistakably Inca and restricted to this period Foremost is the so-called aryballus for containing and carrying liquids – probably chicha this has a pointed base and a knob around which presumably the carrying strap or rope was wound The aryballus varies from a few inches to a yard in height Other typical shapes are a plate with a handle of bird head or hoof form, a cylindrical goblet and kylix footed vessels The decoration is almost always painted in small repeated geometric designs in panels bands or zones Seldom are any life forms used and then they are small and highly conventionalized the animals represented are themselves small such as insects The colours are few and sombre mainly black white and red Technically the ware is excellent hard baked and highly polished (Plates 34 35)

During the empire Inca pottery was used throughout the land, either imported locally manufactured in typical pattern or adapted to local patterns In the Ica region many Late Ica II vessels of typical Inca shapes were decorated with Ica motifs And in the Chumu area typical Inca shapes were made in the characteristic Chumu black ware tradition

nothing is known of the origin and early history of the Inca or of the central highlands in the days preceding the inception of the Inca empire by the emperor Pachacuti about the year 1445

That there were large cities in the central highlands before the Inca period is indicated by some ruins such as that of the large unique city of Pikillacta not far from Cuzco Evidently not built by Inca the nature of the city is still unknown but it covers a great area with terraces with retaining walls streets and the walls of countless houses Strangely these seem to have been made without either doors or windows and were probably entered through the roofs now gone All the walls are built of natural field stones and are very different from typical Inca masonry Evidence of occupation is apparently absent

A few sites that are ascribed to the Early Inca period have been excavated and are presumed to cover the period A D 1200–1440 But the masonry ceramics and metallurgy are rather rude and bear slight resemblance to those of the Inca period

The Urbanist period was not one of the longer ones but nevertheless the estimates of the time span vary greatly Some good authorities grant it only 138 years (A D 1300–1438) instead of the 440 years (A D 1000–1440) allowed it here

The Imperialist Period

A D 1440–153

Historically this is the Inca period the only one known to the average reader Like the Aztec in Mexico the Inca were a small militaristic group that came to power late conquered surrounding groups and established one of the most extraordinary empires in the world

Herein the Inca culture is treated in greater detail both because data on it derived from the accounts of the chroniclers of the time of the Spanish Conquest, afford more information than on any other people and because their culture may be considered as typical of that of other peoples in Peru at this period

Inca influence extended all over Peru as the various other culture groups were conquered – and possibly even a little before

In this period typically Inca objects are found in all regions or blends of Inca and local styles

The Inca is the third great horizon pottery style in Peru Like the others it appears suddenly in full vigour as if it had developed elsewhere but no developmental or proto-Inca types are known It has all the marks of being in a late stage of ceramic evolution Conservatism and lack of imagination invention and initiative are apparent it is chaste and sedate The shapes are simple and limited to rather few which are unmistakably Inca and restricted to this period Foremost is the so called aryballus for containing and carrying liquids – probably chicha this has a pointed base and a knob around which presumably the carrying strap or rope was wound The aryballus varies from a few inches to a yard in height Other typical shapes are a plate with a handle of bird head or hoof form a cylindrical goblet and kylix footed vessels. The decoration is almost always painted in small repeated geometric designs in panels bands or zones Seldom are any life forms used and then they are small and highly conventionalized the animals represented are themselves small such as insects The colours are few and sombre mainly black white and red Technically the ware is excellent hard baked and highly polished (Plates 34 35)

During the empire Inca pottery was used throughout the land either imported locally manufactured in typical pattern or adapted to local patterns In the Ica region many Late Ica II vessels of typical Inca shapes were decorated with Ica motifs And in the Chimu area typical Inca shapes were made in the characteristic Chimu black ware tradition

PART THREE

THE INCA

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Chapter 7

HISTORY

As already noted except for mnemonic devices such as the *qu pu* which served only as a reminder to the trained and informed recorder Inca history was purely traditional until the Spanish chroniclers soon after the Conquest wrote down the legends Like such history everywhere the earliest events are very largely mythological and entirely unreliable while the latest ones are quite detailed and probably relatively authentic the middle period is a mixture

Peru is the one place in America where as commonly in the Mediterranean region history was recounted in terms of royal reigns The Inca remembered the names of their divine emperors and the traditional list is generally accepted as accurate

1 Manco Capac (c A D 1200)
S nchi Roca
3 Lloque Yupanqui
4 Mayta Capac
5 Capac Yupanqui
6 Inca Roca
7 Yahuar Huacac
8 Viracocha Inca
9 Pachacuti Inca Yupanqui (1438–71)
10 Topa Inca Yupanqui (1471–93)
11 Huayna Capac (1493–1525)
12 Huascar (1525–32)
13 Atahuallpa (1532–3)

for a year or two in several villa es on the way in one of which Sinchi Roca the second emperor was born to Manco Capac and his eldest sister Mama Ocllo Also *en route* Manco succeeded in getting rid of his three brothers Cachi was a husky fellow and the others feared him He climbed to the top of the hill of Huanacauri (which Inca boys also had to climb in their puberty tests) and from there threw sling stones with such force that he created new ravines So they sent him back to the origin hole to fetch the sacred llama and another man went back to help him and to wall him up in the hole – where he is yet Uchu remained at Huanacauri where he turned to stone the *huaca* of the shrine there Auca went on to Cuzco where he became the stone field guardian huaca of the city That left only Manco

Manco and his sisters continued on to the valley of Cuzco where they tested the ground with a golden staff Finding the soil a little to the east of modern Cuzco to be fertile they decided to settle there The valley of course was inhabited but the Inca were the chosen people of the Sun and wanted their land of corn and llamas The several small tribes or ayllus in the region were attacked and driven out The amazonian Mama Huaco killed one man with a bola stone cut out his lungs and inflated them which horrid sight frightened the rest away Then Manco and his four sisters built their first houses on the site of the later Coricancha the Temple of the Sun

Naturally several versions of the origin myth differing con siderably in details were recorded by the Spanish Garcilaso gives a rather different story in which Manco Capac and his sister were created by the Sun on an island in Lake Titicaca Manco was a culture hero rather than a conqueror and he and Mama Ocllo taught the people industries and arts and gathered them together to found Cuzco

Manco Capac may have been a purely mytholo ical character invented in later years to give paternity and supernatural origin to the real quasi historical founder of the Inca empire Sinchi Roca

Garcilaso de la Vega is one of the most famous of the many Spanish chroniclers who wrote down the Inca le ends and his

1 S cred j ct o pl c S e p g 205 Pron un d w ca wh ch ph uc but n t nda d form w l be used h n

E

one of a number of equally unimportant groups in their habitat They were constantly in competition and often at war with their neighbours but no group had any thought of establishing per manent hegemony over the others the imperial concept had not yet developed The victor in inter tribal or inter city wars looted the vanquished and possibly imposed a tribute on them and then let them alone until possibly they again acquired enough power to become a menace The traditions of the Inca record no defeats suffered but uch set backs are readily forgotten only victories are remembered All of the great empires of antiquity had a similar rise from unimportance among the obscure Pos sibly the Inca custom of hereditary succession for their leaders had something to do with their later rise it is not known whether the neighbouring groups followed a similar pattern or not

Sinchi Roca second emperor and son of Manco Capac and his sister Mama Ocllo was probably an historical character but the legends say little about him He was not warlike and made no military campaigns adding nothing to the Inca dominions He succeeded Manco Capac by his father's nomination There is disagreement among the chroniclers as to whether or not he fol lowed his father s example of marrying his sister His son Lloque Yupanqui succeeded him Lloque is said to mean left handed Lloque Yupanqui had an elder brother why in this case Manco Capac s rule of primogeniture was not followed is a question Like his father he d d nothing of historical importance and per formed no military exploits According to the legend he had no children in spite of his advanced age Like the early biblical patriarchs they lived to a really ripe old age in that period Sarmiento has all the early emperors living to an age of over one hundred! So they got old Lloque Yupanqui another wife – not his sister it seems – and by her he had a son Mayta Capac

Mayta Capac was a strong character l ke his great grandfather Manco Capac and so fabulous myths grew up about him as in the case of Manco Capac A vigorous three month baby he was born with a full set of teeth At the age of one year he was as big as an average eight year-old and at two years he was fighting with big lads When only a few years older he got into a quarrel with some boys of the Alcahuiza group the nearest neighbours

Inca Roca begat a number of legitimate – or let us say royal – sons amon whom Titu Cusi Hualpa and Vicaquirao left their marks on Peruvian history The former succeeded to the throne under a new name Yahuar Huacac, He Who Weeps Blood for the origin of which name a legend – doubtless apocryphal except, possibly in skeleton – was told

Titu Cusi Hualpa s mother Mama Micay was a beautiful Huayllaca woman who it was said had first been promised to the chief of a neighbouring group the Ayamarca. As this prom ise was broken the Ayamarca went to war with the Huayllaca and were besting them As the price of peace the Huayllaca agreed to deliver Mama Micay s child to the Ayamarca Inducing Inca Roca to send the boy then about eight years old to a neigh bouring town he was seized and taken to the chief of the Ayamarca the rejected suitor of his mother With indignation beyond h s years Titu Cusi Hualpa wept tears of blood and threatened a curse upon his captors if he were injured It was several years before he was returned to his father Inca Roca the Inca emperor which illustrates the slight power of the Inca in those days

That Yahuar Huacac was chosen emperor is strange for he seems to have been quite unsuited for the post unenterprising and even cowardly His brother (cousin according to some ac counts) Vicaquirao apparently was much more capable as well as likeab e He led some campaigns against the groups south and east of Cuzco and probably for the first time consolidated and organized these near by regions as inte ral parts of the Inca empire Another brother or cousin Apo Mayta is mentioned as a successful general according to othe accounts Apu Mayta was merely an other name for Vicaquirao

Most of the chroniclers agree – for the first time – regarding the name and identity of the *coya* or queen of Yahuar Huacac she was not his s ster indicating that at that time sister marria e was at least not a rule

Hatun Tupac Inca the eighth emperor more commonly known by h s later name of Vira ocha Inca, was the most famous of the sons of Yahuar Huacac on accession to the throne he as sumed his new name in honour of Viracocha the Creator his

of the Inca which developed into a full scale battle and finally into a war in which of course the Inca were victorious Still in early childhood Mayta Capac gave a good account of himself in these battles and so went through the maturity rites at that tender age Like most kindly fathers Lloque Yupanqui could not understand his belligerent brat and chided him fearing that he would involve his family and people in disaster However the Inca were quite ready for a fight at any time and gave Mayta Capac enthusiastic support especially after Lloque Yupanqui died and Mayta became emperor Garcilaso makes him the first great conqueror who subdued the country from Lake Titicaca to the headwaters of the coastal rivers but later historical events as well as the testimony of earlier and more reliable chroniclers do not support this claim and it is more probable that the wars under Mayta Capac did not extend more than a few miles beyond Cuzco and had few results beyond the taking of booty the imposition of tribute and the cultivation of hostility

The chroniclers are in even greater disagreement than usual regarding the identity of Mayta Capac s *coya* or principal wife no less than five different women being named only one writer states that he married his sister He followed the precedent of his father in making an inspection tour of his entire realm immediately after his inauguration which custom was followed by all his successors He also according to one of the chroniclers legitimized the great body of soothsayers medicine men and the like who had hitherto been accustomed to practise clandestinely their age old professions

The fifth emperor Capac Yupanqui was appointed by his father Mayta Capac just before his death He also apparently was not the eldest son but was selected because his older brother was ugly Though his annals are short and simple he is reported to have been the first emperor who made conquests beyond the valley of Cuzco though these were only a dozen miles away

Inca Roca his son also waged war with neighbouring peoples and subjugated some groups within twenty miles south of Cuzco For the greater part however he preferred the flesh pots of Cuzco and idleness therein

hoped for Inca aid to subdue the other So did the Tlaxcaltec join with Cortes to crush the Aztec so do to day Chinese Communists and Nationalists seek Western aid to overcome the other so would almost any nation to day ally with beings from Mars to defeat its pet terrestrial enemy Anyway Emperor Viracocha formed an alliance with the Lupaca The Colla however learning of this attacked the Lupaca before Viracocha could send aid, but were defeated in a gre t battle at Paucarcolla that eliminated them from the race for hegemony

Immediately to the west of Cuzco were the Quechua and to the west of the latter the Chanca in the province of Andahuaylas The Quechua as the name suggests were of the same blood la guage and culture as the Inca and enjoyed friendly relations with the latter the Chanca were a rather different people and old enemies of the Quechua Inca In the early part of Viracocha s reign the Chanca had overcome the Quechua and established suzerainty over them so that the Inca and Chanca territories were contiguous they could not long remain so without conflict Emperor Viracocha had stre gthened his position by cultivating friendship with the Quechua and by taking his queen from that region.

Finally towards the end of Viracocha s reign the Chanca felt strong enough to attack hoping that Inca leadership would be weak They advanced on Cuzco with such a large army that many of the leaders including Viracocha himself and his son and heir apparent Urcon believed the cause to be lost and barricaded themselves in a fortress in Caquia Xaquixahuana which they believed could be defended better than the city However the two royal sons Roca and Cu i Yupanqui refused to yield and to ther with the old generals Vicaquirao and Apo Mayta and a band of other last ditchers planned a desperate defence of Cuzco Cusi Yupanqui was the leader The Chanca attack was finally repulsed by resistance so heroic that the defenders believed that th stones of the battlefield must have turned into men to aid them Cusi Inca Yupanqui had some of them taken and placed in the city s shrines as sacred *uacas* After their repulse f om the city the Chanca were defeated in several other battles and disappeared as rivals to Inca power

towers erected on the Cuzco skyline to determine the solstices or at least to indicate the times for agricultural activities Some of these accomplishments he probably completed before setting out for his conquests or in his rest periods between campaigns most of them he probably planned and left to be carried out by subordinates during his ab ences

The great British South Americanist Sir Clements Markham has called Pachacuti the greatest man that the aboriginal race of America has produced to which encomium the great American Peruvianist Philip Means gives his enthusiastic approval He demonstrated his stature not only in accomplishments but in intellect

The great and sudden expansion of the Inca empire is one of the marvels of history It effectually began with the inauguration of Emperor Pachacuti generally dated at 1438 was almost at its maximum at the time of the death of his son Topa Inca in 1493 and ended in 1532 with the conquest by Pizarro just a little less than a century after its beginning In little more than fifty years father and son extended Inca domination from northern Ecuador to central Chile a coastal distance of close to 3000 miles and an area of about 350 000 square miles Possibly one must look to Philip and Alexander for analogous careers Though some of the tribes offered vi orous resistance that delayed their conquest nowhere did the Inca armies meet any nation that was able to compete with them even the strong Chimu kingdom of the north Peru coast was no match for them Pachacuti and Topa Inca rank with Alexander Genghis Khan and Napoleon as among the world s great conquerors It was apparently the con queror s thirst for aggrandizement and power that provoked the Inca conquests no enemy threatened them, neither did they need additional territory for economic reasons

Apparently Pachacuti assembled the Inca forces with intent to brin all neighbouring peoples under his control Those that did not submit at once and pay homage to him were attacked The first victims were groups within about twenty miles of Cuzco These old hereditary enemies were apparently not treated with the leniency that attended later conquests at greater distances it seems that there were old scores to be settled

the boundary markers of the empire But in pursuit of the Chanca he progressed beyond the limit to the province of Cajamarca Finding it populous and wealthy he completed its conquest and brought back to Cuzco a great booty and the sons of the vanquished rulers Pachacuti had him executed there ostensibly for disobedience to orders and for letting the Chanca escape Capac Yupanqui however had apparently been boastful and had bragged that his conquests were greater than his brother s the latter was jealous and al o fearful that Capac Yupanqui would aspire to the throne and would start a rebellion supported by his great army

The practice of *m tima* was probably adopted about this time To forestall rebellion in conquered regions the inhabitants were transferred *en masse* to other parts of the empire their places bein taken by peasants who had been longer under Inca rule their spirit of independence broken

Pachacuti next turned his attention to the region of Lake Titicaca where the Inca s old rivals the Lupaca were fomenting trouble and had induced some towns to revolt The emperor soon quelled the rebellious villages and then continued on to crush the Lupaca nation on the south western shore of Lake Titicaca he also proceeded a little way around the south end of the lake His next campaign was against the Chumpivilca not far south of Cuzco who had somehow until then escaped in the conquest of the rest of this near by region

Pachacuti was by this time getting along in years and had begun more and more to rely on his equally capable son Topa Inca and to permit the young man to lead some expeditions which the latter handled most creditably Between them they carried the Inca empire practically to its maximum extent, and in a space of about thirty years *c* 1463 to 1493 increased its area by about a thousand per cent

According to Sarmiento Topa Inca Yupanqui had two brothers considerably older who had conducted successful campaigns against the Colla a strong Aymara speaking group of the Titicaca highlands who were frequently in revolt In fact the boy was born while Pachacuti and his two elder sons were engaged in quelling one of these revolts For some reason Pachacuti

The Quitenos were a proud people accustomed to dominance not subservience and the king returned the indicated answer The war was long and bitter but Quito finally fell

During the course of the war with Quito Topa Inca made an expedition to the coast in the region of Manta and Huancavilca Here he was told of some islands well populated and rich in gold far off the coast to which traders sailed in large rafts with masts and sails Curious and covetous he is reported to have prepared a great expedition with a flotilla of rafts and many men sailed to the islands and taken possession of them bringing back some Indian prisoners black in colour much gold and silver a seat of brass and the hides of animals like horses according to Father Cabello One s imagination immediately recurs to the Galapagos Islands and Sarmiento de Gamboa specifically identifies the legendary islands with the Galápagos which he discovered in 1567 There is no evidence of the former existence of peoples of any high culture on these islands and until the present it has always been believed that they had never been seen by men until Spanish days However in January 1953 Thor Heyerdahl found potsherds in James Bay and in two valleys on Santiago Island and on Black Beach on Floreana Island The pottery was mainly plain except for some pieces with toads in relief It could not be identified with any well known ware but showed some resemblance to pottery from the Chimu region or the Ecuador coast. The carved stone statue that Mr Heyerdahl went to investigate turned out to be very recent

The fall of Quito left but one important independent nation in Peru and Ecuador that of the old highly cultured Chimu on the north coast of Peru (page 96) Like most old civilizations their vigour had apparently been sapped by years of peace and comfort and they were ill prepared to cope with the virility of the conquering Inca hordes The frontiers of Chimu territory towards Cuzco had been fortified by such works as the great fortress of Paramonga but the Incas advanced from the north taking the Chimu on the flank The struggle was short and uneven the Chimu ruler wished to fight on to death but his counsellors realized the hopelessness of the cause and induced him to surrender before many had been slain

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of the Inca for hegemony were again restive under Inca rule and awaiting an opportunity to regain their independence The absence of the emperor and his armies in the deep forests seemed to present this opportunity especially since a deserter reported to them that the Inca army had met defeat the emperor killed The Pacasa and Omasuyu other Aymara-speaking nations joined the Lupaca and Colla but the revolt was not a pan Aymara one since some Aymara groups not yet brought under Inca rule did not partake and some others already conquered re mained loyal

There could hardly be a better illustration of the extraordinary organization of the empire than the fact that the Inca armies were able and prepared to transfer operations quickly from the tropi cal forests close to sea level to heights of 12 000 ft and to wage a successful campaign there Overcoming a stubborn resistance they captured the hill of Pucara which had been fortified and then proceeded to invest the entire province of the Colla Another battle was fought with the Pacasa and Lupaca at the Desaguadero River south of Lake Titicaca in which the Inca armies were again victorious and the rebellion was quelled

By this time the lust for power had apparently taken full pos session of the Inca and Topa Inca Yupanqui longed to have every region known to him under his sway His next campaign was eastward into Bolivia and the highlands of this region were soon added to the empire Northern Chile came next, and in a series of campaigns this country was subjugated as far as the Maule River where at the modern town of Constitución Topa Yupanqui decided to place the southernmost limit of the empire it was never extend d farther

Doubtless the practical difficulties of conducting a campaign at such a great distance from the base were very great the pro blems of administration would have been equally difficult if the conquests had been carried farther southward Moreover the forested region could have had little appeal to the Inca. Primarily however it was almost certainly the fierce resistance of the indomitable Araucanian Indians that stopped the Inca ad vance Physically and temperamentally they much resemble the Indians of the Great Plains of the United States especially in

queen was his own sister Mama Ocllo This practice must have been a permitted custom for some time and it has been ascribed by some of the chroniclers to some earlier emperors but this was apparently the first unquestionable case and set the pattern for later emperors Sarmiento says that Topa Inca Yupanqui was eighty five years old at the time of his death also that he left two royal sons sixty natural ones and thirty daughters Of his royal sons he chose Titu Cusi Hualpa better known by his official later title of Huayna Capac, as his successor

Although the reign of Huayna Capac was a long and successful one and though he brought the empire to its maximum extent the apogee of Inca greatness probably passed with the death of Topa Inca Yupanqui Considerable unrest filled the reign of his son With the slow means of communication and transportation then available the empire was too great to be successfully administered from one centre by one man a quasi divine being without whose sanction hardly anything could be don

Early in the reign of Huayna Capac began those dynastic troubles of succession that were to becom so acute with his sons He was very young at the time of accession as was evidenced by the title that he assumed then meaning The Young Chief Rich in Virtues One of his half brothers son of one of his father s concubines made a claim to the throne on the grounds that it had originally been promised to him There seems to have been some justification for this pretension which was supported by the larg body of Capac Huari s relatives and friends Apparently however the dispute never developed into open strife the majority of the court officials and people supported the royal son and the choice of Topa Inca Yupanqui, and the pretender s mother who had engineered his claim was put to death as a traitress A somewhat similar event took place shortly after Huayna Capac s accession As he was then very young a regent was appointed who schemed to seize the throne The plot was thwarted by the Governor of Chinchaysuyu who executed the culprit and assumed his post which he thereafter administered with honesty and efficiency

Huayna Capac was not the great conqueror that his father was possibly he could have been but there were few more worlds for

desperately and valiantly and drove the Inca forces back several times with great losses One of Huayna Capac s brothers leading one attack was killed and the emperor himself was knocked down and barely rescued The stronghold was taken at last by a cunning manœuvre The emperor sent a large part of his force to make a long detour of several days while he attacked openly Giving his encircling general time to reach the rear of the fort and at a prearranged time he then feigned repulsion and flight pursued by the entire garrison the fortress was then easily taken by the army approaching from the rear The Cayambi now in the open were soon annihilated by the Inca forces

Huayna Capac set up the boundary stones indicating the northern limit of his empire at the Ancasmayo River in the land of the Pasto It was never extended farther in that direction and still remains the boundary between Ecuador and Colombia

After pacifying and reorganizing highland Ecuador the Inca turned towards the coast where around the Gulf of Guayaquil were some yet unconquered tribes These were subjugated with out great difficulty and considerable booty of emeralds tur *quoise and* mother of pearl was taken With this *the campaigns* of conquest of Huayna Capac and of the Inca emperors came to an end The empire had reached its maximum extent approxi mately 380 000 square miles about equal in extent to France Belgium Holland Luxemburg Switzerland and Italy com bined or to the Atlantic Coast states of the United States From north to south it stretched over 2,000 miles (4000 km) (See map p 36)

Just before the death of Huayna Capac about the year 1523 two interesting things happened The empire was attacked by a foreign enemy and the Inca had their first sight of a white man who accompanied the invaders The story of this Spaniard who saw Peruvians about a decade before Pizarro is not generally known to history [1] Alejo Garcia by name he travelled with a band of Chiriguaná Indians from Paraguay to the eastern foot hills of the Andes in Bolivia he and a few companions who probably accompanied him on the long journey had been ship wrecked a few years before on the coast of Brazil He was killed

[1] N k öld 1917 M n 9 8b

The High Priest then set out to give the imperial fringe to Ninan Cuyoche but found that he also had died Huascar was then chosen Sarmiento does not mention Atahuallpa in this connexion At any rate, Huascar was installed as emperor by the High Priest in Cuzco while Atahuallpa was supported by the army and people in Ecuador

It would almost seem that as the Spanish believed it was the divine plan that the great empire should be rent for the first time by civil war while the foreign invaders were planning its conquest. Had they come a decade earlier or later the few men under Pizarro could hardly ha e accomplished their miraculous exploit

It is not certain whether Atahuallpa originally intended to rebel and either to separate Ecuador from the empire or to claim the Inca throne At first whether sincerely or not he seems to have given alle iance to Huascar But the latter suspected him and maltreated the envoys that Atahuallpa sent to him executing some of them which act caused considerable ill feeling against him in Cuzco where the men had influential relatives Both half brothers then began assembling armies for the coming test of s rergth Meanwhile the people of the province of Huancavilca deem d the time propitious for a revolt but this was promptly quelled by At huallpa

Huascar marched north with his army and met that of Atahuallpa at Riobamba Like so many great battles of history better known to scholars thousanos of men died for the personal glory of their leaders Sarmiento says that in his day the plain was still co ered with their bones

> But things l ke that you know must be
> At e ery famous v ctory

Atahuallpa was the victor

Huascar had another small force which caught the army of Atahuallpa resting and unwatchful after the battle and caused it much loss but Atahuallpa again attacked and was again victorious Several other engagements were fought terminating in battles at Cajamarca and Yanamarca in all it appears the forces of Atahuallpa prevailed

Atahuallpa s cont nued successes may probably be ascribed to

sent word that, the civil war being over they were all one people again there would be no reprisals The Cuzquenos therefore came out and pledged allegiance to their new emperor Atahuallpa Nevertheless several of Huascar s five principals – three generals and two high priests – were executed and the others chastised and compelled to pull out their eyelashes and eyebrows as offerings to the new emperor Huascar s mother blamed him for his unwise actions and slapped his face

Atahuallpa however according to Sarmiento was not so magnanimous When he heard of his victory receiving word at Cajamarca from his conquering generals he ordered the entire family of Huascar wives children and babies to be killed and fastened to poles along a highway leading out of Cuzco Huascar was compelled to watch the executions which apparently extended even to his brothers and sisters therefore close relatives of Atahuallpa More than eighty of his children were thus killed as well as most of his chief friends and supporters Those of his concubines who had not borne him children and were not pregnant were spared

The Spanish Conquest

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baptized and then garroted Thus on 29 August 1533 died the last Inca emperor

The great heap of gold ornaments fashioned laboriously by artistic Inca craftsmen, was melted down into bars It is reported that it took the Indian goldsmiths a full month thus to undo their former labour and that nine forges were employed in the process Of the many other Peruvian gold ornaments that were sent intact to Spain not a piece is known to survive all were melted down to bullion

One is naturally inclined to dismiss the reports of the value of this fabulous loot as greatly exaggerated but it must be remembered that the Crown claimed its fifth part of all such treasure and took the indicated precautions to see that it was received a royal treasurer accompanied expeditions to see – or try to see – that the Crown was not cheated Moreover we have the records of the amount of the royal fifth received in Spain It is obvious then that the admitted value would not have been exaggerated On the other hand there is considerable evidence – as might be expected – that the treasure was somewhat greater than reported that some of the ransom was hidden and not reported This was stated by some soldiers who complained that they did not get their full share of the loot and the native *quipu* records studied shortly after the conquest indicate that about four per cent of the ransom was not reported or properly divided

Various estimates of the amount of this ransom in terms of modern money have been made In probably the most careful and reliable study S K Lothrop[1] estimates that at a valuation of $35 0 an ounce the officially reported ransom amounted to $8 344 307 00 the purchasing value to day would be many times greater Moreover this treasure was only one though the most spectacular one of a number of captures of gold and silver by the Spanish conquerors Lothrop calculates that the loot later taken from Cuzco after the arrival of the expedition there was even greater than Atahuallpa s ransom being worth about $8 345 / 57 Also large sums were taken at Coaque Pachacamac and other places which would certainly increase the total take to over twenty million dollars

1 Loth p 1338

As in every arid and well populated country fuel for cooking was a great problem of course none could be wasted for warmth in the chilly altitudes Centuries before Inca days the highland plateaux had been practically denuded of the few trees they contained The farmers of the Inca period gathered all the brush and dead bushes and branches and dried llama dung must have been the principal fuel in many regions strange to say this is said to burn with little odour or smoke Naturally wooded valleys were protected by Inca laws these areas and the tropical eastern forests produced the timber needed in house building

Ancient Peruvian economy was based mainly on agriculture with considerable dependence on the herding of llamas and alpacas especially in the southern highlands The diet was almost exclusively vegetarian Peru was one of the world's great centres of plant domestication and modern agricultural economy has been tremendously enriched by Peruvian vegetables unknown in Europe until after the Spanish Conquest From a world point of view the most important of these was the white or Irish potato This as well as coca was peculiar to the Andean region Then there were the plants that were known also in Mexico maize or Indian corn chilli squash several varieties of beans sweet potato tomato peanuts avocado and manioc as well as cotton and gourds known also in the Old World (Plate 52)

On the high plateaux, up to 14 000 ft only potatoes together with a few other plants little known outside of Peru quinoa oca ullucu and mashua lupin and canigua could be grown these were the main foods of the inhabitants of the higher altitudes Maize which here grows up to 11 000 ft was the staple food for the middle heights and the other plants mentioned above were cultivated in the lower and warmer regions

The punas the high grassed tablelands were – and are – naturally unsuited to agriculture but used for grazing The cultivated fields are in the better watered and more protected valleys These tend to be narrow and steep so that there is a relatively small amount of level land and the steeper slopes were terraced with retaining walls of stone Some valleys were so completely terraced as to be comparable with the rice terrace valleys of Malaya those preserved in the Urubamba Valley and at Yucay

special fields devoted to the support of religion and the labour was done to the accompaniment of singing Husband and wife worked in pairs each family having a long strip assigned to it Chicha beer was provided for the workers In Cuzco a public festival was held with sacrifices and, merry making and the Priests of the Sun fasted from the time of planting until the appearance of the first sprouts

The onset of the rainy season was awaited with the greatest anxiety and if it was delayed everything possible had to be done to induce the gods and especially the Thunder God to send the needed rain. The people dressed in mourning and marched weeping through the towns They tied up black llamas and dogs so that these would cry from hunger and thirst and sprinkled chicha beer around them hoping thus to appeal to the sympathies of the deities

Throughout the rainy season the fields were tended culti vated weeded and watched to keep predatory birds and animals away If the field could not be seen from the family house a small hut was built from which constant watch was kept the farmer s wife often relieved her husband at night Despite the strict laws human as well as animal thieves had to be guarded against

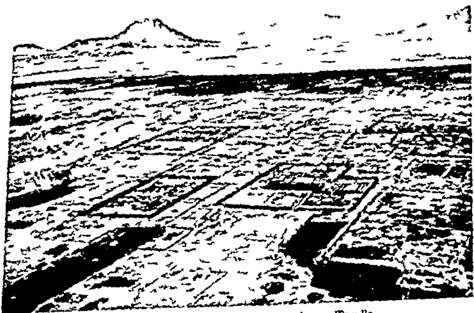
Harvest was naturally the joyous season The earliest maize was harvested in January potatoes in June The corn was picked husked and stored in the houses to the accompaniment of festive songs and dances and public ceremonies Unusual ears of corn were saved and used for divination

The symbiotic pattern of Old World agriculture – live stock manure fertilizer and food plants – was not so fundamental in Peru as the llamas were too few and much of the dung was burned as fuel However as to day some pulverized dried llama dung was used as fertilizer The natives on the coast had access to the great accumulations of bird guano on the islands and mad good use of it they also used fish heads

Like boating fishing was of importance only on the coast and in Lake Titicaca in the small rivers and lakes elsewhere the fish are too few and small to play a prominent role in the native economy Doubtless in early days as to day some groups of

(A) The Castill Cha in de Huantar sh wing ten n head

(B) The H ca d l Sol Moch ar Truj ll



Air view of Chanchan the Chimú capital near Trujillo





(A) A w Chilt p f r s in the Casma Vall y

(B) The g eat d b fort of P am nga (P mmunca) t } t Ica





Th ru ns f C j m rqu lla R mac V lley not f r from I ma





Th eu n of C jam rqu ll R m c V lley not f from l m

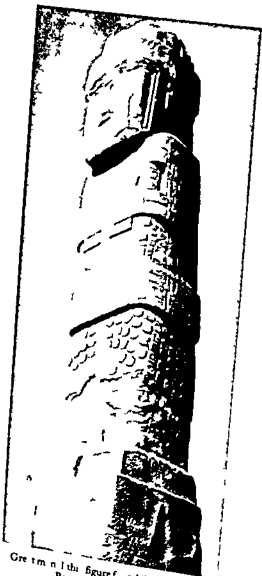




(A) R ma kabl and puzzling lin and figures on th aton -co e ed pampa r Ing n Nazca r gi



(B) A re t d *hullpa* ham l h u n Hu az



Gre t m n l thi figure f nd (by W nd ll C Be n tt) t T huan co

(A) The Callejón de Loreto Cuzco with Inca high stone walls of coursed masonry on both sides



(B) The Colcompata Cuzco Probably built by Emperor Pachacuti c 1450



The Church f Sant Dom ngo Cuzco b lt n the f und tion of
he C ricah h th Inca T mpl of th Sun th curving wall f which
m y be een t th base

(A) Air view of the great fort of S csahuamán overlooking Cuzco



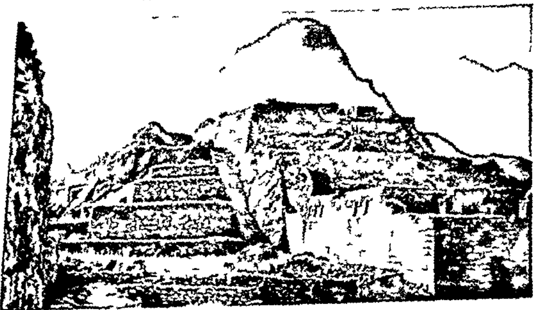
(B) The f e of Sacsahuamán Probably built by Emperor P hacuti c 1450



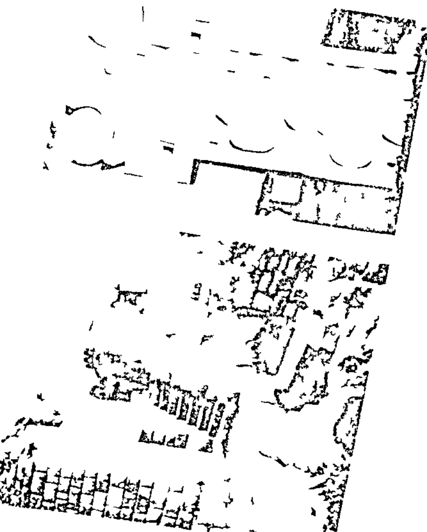


Oll t yt mb gre t Inca fortr ss o pla of fug on th Urubamba Riv r





M chu P c hu a f te Inca h ll d town above th Urubamb Rive





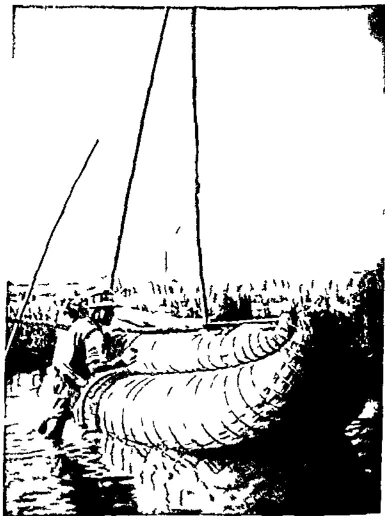
(A) Anc nt agricultural terrac still in use t P sac

( ) Agricultu l t rrace t P





St rrup pout pott ry v l, Cup snique



Large sa l ng balsa Puno Lake T ticaca



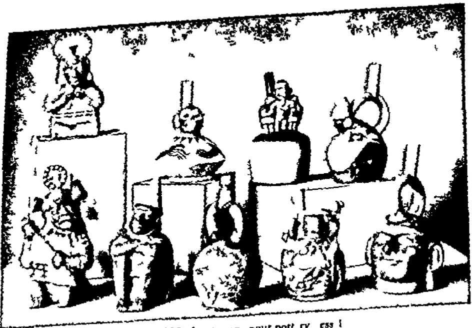
St rrup spout pott ry ves l Cup niqu



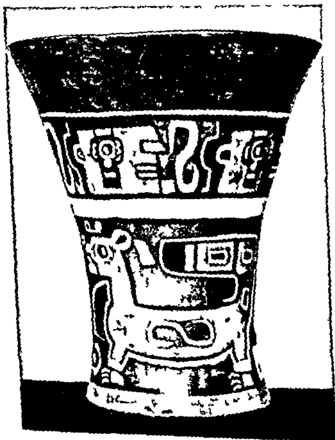
(A) Moche pott ry e sel showing bird de ty tow d on raft



(B) Moch port t v prob bly d p ct ng a d f n t nd idu l

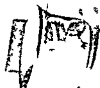


Gro p f M ch t rrup pout pott ry ess !



Pott ry goblet of T ahuan co p riod and art





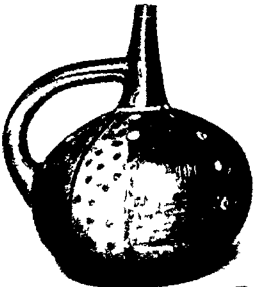








(A) R y g t p t d pott ry (figy ss l



(B) Early I ma o N v r a pottery ve s l











(A) T ahuan co p nod pottery ves ls from the central coast regi n

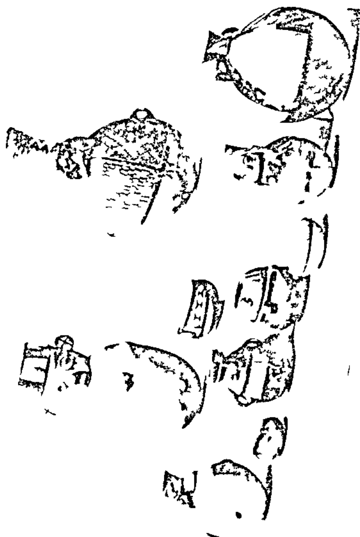








(B) V sel f black whit red w re exca t d t P hacama



large trains of several hundred and about eight drivers were n ded for every hundred animals The life usefulness of a llama commencing at about the age of three years is less than ten years Inca law made the unauthorized killing of female llamas a crime

Besides the useful llama and alpaca the Inca had other domesticated animals the dog guinea pig and ducks The latter two were native animals that had been domesticated in Peru, the ancestors of the dog had probably been brought to Peru in early days and had of course become specialized in type by inbreeding It was of medium size with a pointed nose thick body and short legs short hair and a curling tail The dog was a pet and a scavenger but was eaten by a few Andean peoples though the custom was abhorred by the Inca

Since few llamas and alpacas were personal property in Inca days and almost all the wild animals had been killed off practically the only meat the average commoner got to eat was that of guinea pigs and every family raised them. They breed quickly eat refuse scraps and serve as scavengers are cleanly and harmless and the meat is palatable The duck was a domesticated wild variety of which little is accurately known

The preparation of food naturally differed very greatly from coast to highland according to the staple foods of these regions When necessary fire was made with the wooden firedrill which apparently was no improvement on that used by naked savages in the Amazonian forests the drill was twirled in the hands Most of the culinary apparatus was equally primitive Most food was boiled in pottery vessels directly over the fire or roasted soup and stew were therefore the usual results A porridge made of quinoa or oca was one of the staple dishes Maize corn was not boiled and then ground to a dough as in Mexico but the dry kernels were ground to flour as with ourselves Among the Inca this was done in a stone mill which consis ed of a thin more or less semicircular large and heavy stone which was rocked over the grains scattered on a flat stone The cornmeal was cooked in various ways Corn however was often or generally eaten in the ear boiled or roasted Leavening was unknown, as it was th oughout aboriginal America so there was no staple food

the modern Andean peoples. To a large extent, however its use – or abuse – is a result of habitual malnutrition it is partly a substitute for food Better economic and social conditions would doubtless reduce its use Naturally it was and is considered a divine plant used in shamanism divination and sacrifice

Chicha the native beer also has been from earliest times to the present the intoxicating beverage of much of tropical and highland South America Since it can be mad from many differ ent vegetal materials its use is much more widespread than that of coca In the Andean region it is generally made of maize corn thou h on the highest punas quinoa and oca are substituted In many regions the fermenting substance is saliva the corn being chewed generally by women this seems to have been the practice in the Peruvian empire Great quantities of chicha were consumed when the ceremonial occasion called for it and intoxication to the point of insensibility was expected of the celebrants Unfortunately the same custom prevails to the present the ceremonial aspect remains in that large communal gatherings as for fiestas are accompanied by heavy drinking but the attitude is more hedonistic, without so much official sanction as in earlier days

Tobacco was rather unimportant but used to a small extent medicinally – generally as snuff or ritually but never as self indulgence Datura was also used to a slight extent in shamanism and ritual the seeds were ground A snuff *villca* was made of ground seeds of trees of the genus *piptadenia* It was sometimes inhaled sometimes mixed with chicha and gave a mild in toxicating effect

Costume

The costume of the Inca may be taken as typical of that of all the Andean and coastal peoples at any rate it is the only one on which we have rather full information and in imperial days it was en forced on the conquered populations Grave finds and modelled and painted figures on Moch pottery vessels give us some data on coastal garb and we may be sure that each group and each period had its peculiarities of dress Naturally more and

resembling our bread Salt was generally licked not added to the food

In the cold highlands where potatoes were the staple food these were preserved by allowing them to freeze and thaw squeezing out the water and letting them dry The product was (and is) called *chuñu* Meat was kept by cutting it into thin strips allowing it to dry and pounding it This dried meat was called in Quechua-Spanish *charqui* whence comes our term jerked meat Fish and other watery foods were also dried for storage. Corn and similar relatively anhydrous products were stored either in the house or in special granaries outside

Cooking was generally done out of doors weather permitting but many houses had stoves of stone or clay much like our kitchen ranges Two meals per day morning and evening we e the custom

Most serving and eating vessels like the culinary ones were probably of pottery though vessels of gourd wood and other materials were used also and the Inca nobility employed gold and silver

Throughout the Andean area and from earliest times to the present the chewing of coca[1] (*Erythroxylon coca*) has been a universal male habit The plant is native to this area and contains the principle that is the basis of the cocaine of to day It is chewed together with lime which liberates the alkaloid in the leaves The latter are picked dried and carried in a bag The lime is obtained from calcined shells or burnt stems of certain plants is carried in a gourd and applied with a spatula The technique is very similar to the use of betel nut in Malaya and there may be an historical relationship (see page 24) The drug allays weariness hunger and thirst and therefore has a suitable place in the life of a hard working people Apparently it was not greatly abused in Inca imperial days – at least not by the commoners since its use was prohibited to them except on special occasions we may suspect that it was a government monopoly or else the prohibition could hardly have been effective With the cessation of this ban coca chewing became the problem vice of the area and doubtless it contributes greatly to the decadence of

1 Mortimer 1901

blouse reaching to the ankles and bound at the waist by a long wide, woven and ornamented sash At the top it reached to the neck the upper edges fastened together over the shoulders by long pins and passing under the arms at the sides Like all gar ments this dress was a large rectangular piece of woven cloth merely wound around the body The analogue of the man s cloak was a large mantle worn over the shoulders and fastened at the front with a large straight metal pin known as *topo* These pins of copper silver or gold have large heads of various types sometimes in the form of animal or human figures but most commonly ending in a large thin circular or semicircular disk the sharp edges of which could be used as a knife The women wore sandals and head bands similar to the men s and also a large piece of folded cloth on the head They did not cut their hair but parted it in the middle and wore it hanging down the back it was cut however as a sign of mourning

Deformation of the head was a very common practice in ancient Peru but like most such customs it varied not only from region to region but from period to period so that it may some times be used as an archaeological criterion It apparently was not the Inca fashion in imperial days but was practised by the Aymara who preferred long heads and by some of the earlier coastal peoples

War paint was used by the Inca and other methods of face painting were used at other times but apparently only on special and ceremonial occasions Black was the mourning colour but red and purple were used at other times The prac tice was probably a universal one throughout the Andean area but naturally little information concerning it is available Tattoo ing was practised at certain times and places on the coast but there are no records of it in the highlands

Following nature s pattern it was the Peruvian male who decorated himself Inca women wore only necklaces and shawl pins Probably all men wore earplugs of some type but the nobility Inca by birth or privilege wore such great plugs in orifices in the ear lobes that this class was generally referred to by the chron clers as O ejones Big Ears These insignia were up to two inches (5 cm.) in diameter and made of various materials

Chapter 9

THE CYCLE OF LIFE

As among practically all peoples until recently both birth and death rates were doubtless high in Peru infant mortality was great The average family was apparently about five Babies were frequent and always welcomed birth control was un known and infanticide rare The mother performed her house hold duties until just before childbirth and recommenced them very soon afterwards The pregnant woman for religious reasons was not allowed to walk in the fields She confessed her sins prayed for a successful delivery and together with her husband fasted for a brief period Experienced neighbours especially those who had borne twins helped her there were no professional midwives Immediately after delivery the mother washed both the child and herself in a near by stream The umbilical cord was preserved

Until the child was old enough to walk it was kept bound in a four legged cradle from which it was never removed This was made so that it could equally well be rested on the ground or carried on the mother s back whenever she left the house Two looped sticks protected the child s head so that it could be wrapped in a blanket without danger of suffocation The mother s shawl tied across her chest bound the baby-carrier to her back

The time of weaning was an important family event and marked a new stage in the child s life a feast was held by all relatives with drinking dancing and hilarity The eldest uncle cut the baby's nails and hair preserving them carefully and then bestowed a name upon it the first name it had had and which it would bear only until maturity The relatives gave the child pre sents and prayed to the sun that its life might be long and lucky

For the child of the commoner there were no schools no formal education There being no system of writing there was little to learn that could not be imparted by the parents in ordinary conversation and thus education by precept and example was all that the average child got The sons of the aristocracy and

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those of men of higher rank being of course of gold or silver (Plate 61) Men also wore metal bracelets the metal disks that were awarded as medals for military bravery and necklaces made of the teeth of slain enemies On ceremonial and festive occasions of course they also donned gaudy head dresses collars of feathers and similar regalia

but it is difficult to see how this was arranged unless it was practised before the formal bethrothal

In the Cuzco region the boy and his family went to the bride s home where her family formally presented her to him. He put a woollen sandal on her right foot if she were a virgin one of grass if not Then they all returned to the house of the groom where the girl gave him a tunic of fine wool a man s head band and a metal ornament of a certain type all of which he donned After the usual Petronius like precepts and admonitions ubiquitous on such occasions th customary presents to the couple and the final feast they were considered man and wife There was no religious sanction for the marriage no priest participated According to some authorities the state presented to each of the parties two complete sets of clothing one for ordinary use one for festive occasions The boy retained the *topo* of land that had been assigned to his father for him the girl s half *topo* reverted to the common lands

Incest restrictions were not so great as among ourselves They were few for men of top rank the last several emperors married their full sisters and nobles were allowed to wed their half sisters Among the commoners marriage was permitted with a first cousin but prohibited for closer relationships

Polygyny was as before noted permitted or even encouraged and a man s wealth and prestige in the absence of money was largely indicated by the number of his wives But in the nature of things this could be a perquisite of only a few men who were naturally the aristocracy The emperor bestowed concubines on his favourites and his victorious generals He himself had of course the largest sera lio Some of the emperors may even have out Solomoned Solomon for Cieza de Leon says that none of them had less than seven hundred However the usual exaggeration may be suspected here

Peruvian polygyny however differed from most other types in that there was only one real wife always the first one She received state sanction was officially betrothed ruled over the other subsidiary wives or concubines and could not be divorced If she died the man might take another primary wife, but might not elevate one of the secondary ones to that rank On the other



F gure 4 Thirty thre year old woman weaving

unknown especially in the rainier eastern canyons as at Machu Picchu Babies were apparently sometimes buried in large pottery urns One of the more unreliable chroniclers mentions cremation and the voluntary immolation of widows (Indian *suttee*) but no corroboratory evidence of these has been found On the coast the dead were at all times disposed of by interment in deep graves in the dry desert sands Everywhere in Peru cemeteries were made in places unsuited to agriculture

covered by a mat or hide probably never by a permanent swinging door The room was devoid of all ornamentation and decoration for the occupants especially the men spent almost all their daylight hours out of doors. Pegs in the walls held clothing and implements and on the earthern floor lay the household equipment, storage jars pots baskets cooking utensils gourds grindstone or mortar mats hides – and of course vermin. However squalid nevertheless it was probably not much less comfortable than the house of the average European peasant of the same period.

Generally an extended family – the families of children and parents – occupied several such houses arranged rectangularly around a central court or patio in which were also some storehouses and other similar constructions. Such a compound was surrounded by a wall, generally also rectangular and with a single entrance the wall might be of stone or adobe but often was of sod A number of such compounds clustered irregularly composed a village

The public buildings especially those in Cuzco and of the later periods were of course of superior construction with good stone masonry and little use of adobe Even the best buildings however were generally roofed with grass thatch But some of the latest Inca public buildings in the Lake Titicaca and northern highland region were covered with corbelled slabs of stone and some of them were made with windows this architecture is unknown in the Cuzco district

The temple crowned stepped or terraced pyramid with external staircases was not the characteristic feature of religious architecture in the Andean region that it was in the Mexican area It is missing in Inca architecture but a few are found in earlier periods in the northern highlands On the coast, however as noted before in the early periods and especially on the northern coast in the Moche period immense pyramids of adobe were built, a single great pyramid with its summit temple thus composing a ceremonial site The great Temple of the Sun at Moche has already been described (page 70) The great Pyramid of the Sun at the famous ceremonial site of Pachacamac covers about twelve acres in area and rises to a

elbow grease Wooden and bronze crowbars were employed in moving and placing stones

It was formerly beli ved that the megalithic masonry em ploying immense stones of irregular size and shape was pre Inca in age and related to the Tiahuanaco period while masonry of stone blocks of relatively uniform ize laid in courses was typical of the Inca But it is now generally agreed that both types were built by th Inca and that almost all the great masonry edifices and structures in the Cuzco region including Sacsahuamán Ollantaytambo Machu Picchu and Cuzco itself are of the L te Inca period (Plates 12–20) These include the most stupendous megalithic masonry as well as the finest regular coursed walls and others of uncut field stones set in clay the latter type is known as *pirca* masonry Cuzco itself contains examples of masonry of all these types all built after 1440 by Pachacuti and some of his successors

The Inca onemasons used mainly three kinds of stone and cut and laid them differently according to the desired purpose Yucay limestone was used for foundations and for terrace and retaining walls the great walls of Sacsahuaman were built of it It was always cut into polygonal blocks Green Sacsahuaman diorite porphyry was also employed for retaining walls where unusual solidity was desired it also was used in polygonal form For regular rectangular masonry often of uniform size and laid in regular courses the Inca used black andesite The most im portant structures in Cuzco are of this stone the nearest known quarries are nine and twenty-one miles (15 and 35 km) distant from Cuzco

Certainly no other archaeological structure in the two Americas gives the visitor the awesome impression of stupendousness that Sacsahuamán does Forewarned as one may be the sight still exceeds expectations (Plate 15)

It is now believed that Sacsahuamán was not so much a fort built to protect Cuzco as a safe place of refuge for the in habitants of the city in case of attack Stretching for a distance of over 1800 ft (540 m) more than a third of a mile the three terrace walls reach a total height of about 60 ft (18 m) Each wall is a saw tooth line of angles salient and retiring The lower wall

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temporal eras Those of the earlier periods were generally hand modelled the later and particularly the Inca adobes were moulded in forms to rectangular shapes At various periods on the coast adobes were modelled in conical hemispherical cobble cube and sugar loaf shapes each characteristic of a certain time and region. Inca rectangular adobe bricks average about 32 by 8 by 8 inches (80 by 20 by 20 cm)

In masonry construction, and especially in retaining walls only the face was carefully finished the rear left irregular Free standing walls generally had rubble fill in the centre Walls were usually battered and doors niches and other openings of Inca buildings were trapezoidal narrower at the top Corners were especially well made and frequently the masonry was strengthened by a tenon or some other projecting feature that locked with the adjacent stone block

Engineering Roads Bridges Irrigation

Roads paved or unpaved were probably an ancient element in the Andean culture pattern, but no pre Inca roads have been archaeologically verified and it was the Inca that brought them to a high stage of development. In this respect the Inca bore a close resemblance to the Romans both needed roads for the rapid transport of supplies for their conquering armies and for the quick conveyance of information and orders and both built roads to the limits of their conquered dominions The main difference between them was that the Inca possessing no wheeled vehicles did not need such good paving if any nor such wide roads and strong bridges also they could use steps on steep slopes Without good roads it would have been practically impossible to conquer regions at such a great distance from the centre Cuzco and following conquest to administer them The Spanish were strong in their admiration for the Inca roads wrote full descriptions of them, and utilized them constantly in post conquest days

There were two main north south roads one along the coast and one through the highlands Transverse roads connected

persons travelling on official business they can hardly be termed inns Ordinary ones were placed a day s journey apart and larger and more elegant royal tambos were built in the cities on the road. Each of these latter was equipped with the special and elegant accoutrements used by the emperor awaiting the day when he might journey that way Each tambo was furnished with a storehouse containing food and equipment, and was under the charge of local officials Milestones were set up on many of the roads at each unit of distance which was the *topo* about four and one half miles (7 km) (The same name is applied to a measurement of area and to a shawl pin usages already noted)

Streams were crossed by bridges of several types to meet diverse conditions The smaller ones were spanned by a series of logs or by great stone slabs supported by masonry piers and the largest rivers by pontoon bridges resting on floating rafts or small boats Such a pontoon bridge apparently crossed the Desaguadero River near Lake Titicaca The most interesting bridge, however was the suspension bridge generally spanning deep narrow ravines Five great cables were stretched across and anchored firmly to beams embedded in masonry piers at either end. These cables were of braided or twisted fibre vines or long thin pliable twigs and were up to sixteen inches (40 cm) in diameter Three formed the floor which was flattened with cross sticks and matting or mud and the other two served as hand railings with other vines laced between them and the floor The bridges sagged and swayed in the wind as no guy ropes were used but were safe enough for foot travellers and llamas Apparently the idea of hanging a level footpath from the cables the method of modern suspension bridges never occurred to the Inca. These bridges were repaired every year this and their upkeep being the labour tax for the neighbouring inhabitants Cobo describes one that he crossed at Vilcas which was two hundred feet (60 m.) long

Where traffic was slight a kind of breeches buoy is reported to have been employed a suspended basket was drawn along a single cable by ropes in the hands of the bridge tenders On very long water crossings the passengers were ferried across on boats

the back, with two mantle corners tied across the chest other objects were similarly carried with the help of ropes The tump line with a carrying band across the forehead was used in some places

Litter like frames were doubtless used for carrying heavier objects but the principal employment of the litter was for the personal transportation of the higher nobility These litters of course varied in quality as befitted the rank of the rider the finer ones had canopies for shade The floor was solid the seats portable stools Litters were made for one or two persons the latter facing each other The ends of the long carrying poles rested on the shoulders of the four bearers

Cieza de León gives a vivid description of the use of the litter by the Inca emperor [1]

When the Incas visited the provinces of their empire in time of peace they travelled in great majesty seated in rich litters fitted with loose poles of excellent wood long and enriched with gold and silver work (Figure 5) Over the litter there were two high arches of gold set with precious stones and long mantles fell round all sides of the litter so as to cover it completely If the Inca did not wish to be seen the mantles remained down but they were raised when he got in or came out. In order that he might see the road and have fresh air holes were made in the curtains Over all parts of these mantles or curtains there was rich ornamentation On some were embroidered the sun and the moon, on others great curving serpents and what appeared to be sticks passing across them. These were borne as insignia or arms The litters were raised on the shoulders of the greatest and most important lords of the kingdom and he who was employed most frequently on this duty was held to be most honoured and in highest favour

In imperial days llamas were used mainly in large trains for transporting state goods and military supplies but doubtless in earlier times and in other parts llamas were as at present privately owned like the modern farmer s horses and cattle They were never used for field cultivation or for any other activity except transport of goods (Figure 3)

[1] Part 2 chapt o pp 61–2 (Markham translation 1883)

While the planning of roads and bridges is a phase of engineer ing and is properly discussed in that section their employment is pertinent to transportation

In addition to the use of the roads for ordinary travel by officials armies and llama pack trains the Inca state maintained a twenty four hour relay post service for the rapid transport of messages and light objects Small shelters were built about a mile apart [1] in pairs one on either side of the road and each holding two young men one of these was on constant watch looking for an approaching runner When one appeared he sprang up ran with the panting messenger a short distance while he learned the message – generally accompanied by a quipu – or received the package and then ran on at top speed to deliver it to the man at the next post The runner (*chasqui*) was immediately replaced by another man ready at the post The young men had been especially trained for this service which was their labour tax or *mita* they served for periods of fifteen days

By this relay system a very high average speed could be main tained indefinitely The system was continued after the con quest and the chroniclers report that the run from Lima to Cuzco about 420 miles over a bad road required three days This is about 140 miles (24 km) per day or an average speed of about six miles per hour this was doubtless exceeded on better roads and in Inca days when they were carefully maintained For instance it is reliably reported that fresh fish was brought from the coast in two days to the emperor in Cuzco

While considering the topic of communication mention should be made of the smoke signals by means of which messages could be sent across the country much faster than by courier

Transportation by water was of importance only on the coast and on large Lake Titicaca In both regions small fishing boats made of bundles of *totora* reeds were made These are called balsas generally translated as rafts but they are boats rather than rafts boats of probably identical type are used on Titicaca

[1] The ch ru l rs diff ry much in th stim tes of th d tan co ed by each l y runn Th y ange from quart f a l to on and h lf leagues Prob bly th distan vari d in accord w th the n tu f th t rain

to day (Plate 22) Mat sails made of parallel reeds are borne on masts The boats on the coast were small and light generally carrying and capable of being carried by one man nevertheless the fishermen in groups took them far to sea In southern coastal Peru they used inflated sealskins and in northern Peru a number of empty gourds under a net the sealskins could be kept inflated at sea by means of tubes Dugout canoes were made in peripheral areas when suitable timber was available but they were apparently unknown in the highland heart of the empire

In far northern Peru and in Ecuador where increasing rainfall produced forests near or on the coast much larger rafts were built of the very light balsa wood These were apparently real rafts made of a number – generally seven to nine – of great logs of graded length so that the prow was pointed the stern square The logs were bound together with rope and covered with a platform and a mast for a sail was erected in the centre oars were also used Such a raft could accommodate fifty men and sail a great distance In such a raft (page 121) Topa Inca made his legendary voyage of exploration and the *Kon Tiki*[1] which drifted from Peru to the Tuamotu Islands in 1947 was of similar type Barring a typhoon and following the favourable currents and winds there is no reason why a large raft of this type should not have reached Indonesia or even the Asiatic mainland and there is some evidence that in earlier days long Pacific voyages were not infrequent (pages 21 25)

Since in the Inca empire there was no private business and no standard medium of exchange there was little trade Persons were not permitted to change their residences beyond their immediate vicinity nor to travel for pleasure far from home Almost the only exchange of property possible was that of small handicraft which could be traded or bartered at local markets or fairs which were held at frequent or regular intervals Thus a provident and industrious man or family might specialize in the production of some household goods or utensils in universal demand, produce a surplus of them in spare time and exchange these for desired objects of another nature produced by other craftsmen Other materials available for barter were surplus

1 Heyerdahl 1950

goods received in the periodic public distributions A family re
ceiving goods not needed or desired might trade them to another
family deficient in these The inequalities caused by the rule-of
thumb distribution were thus remedied

Emperor Pachacuti is credited with having decreed three mar
ket days or holidays each month This seems reasonable for small
local markets but there were probably also larger ones at longer
intervals in the principal centres

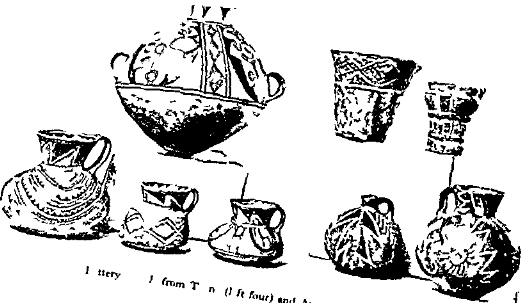
me and that endogamy – marriage within the group – was the common practice With these important differences in mind the ayllu may well be considered a clan

It is true that some of the ayllus traced descent from animals but others ascribed their origins to mythical persons and places the animal ancestor was not considered taboo for diet and no ayllu bore an animal name although each had a name generally that of a place or person.

The ayllu was undoubtedly the fundamental social and political group of Peru and was of very great age far antedating the Inca empire Kinship was its basis and bond Probably residence was always patrilocal the son brought his wife to live with or near his parents The pattern of commoner agricultural labour for the support of the chief or sinchi must also have been a very ancient one The chief had considerable authority responsibility for the acts of his clansmen and for the avenging of wrongs done to them Each ayllu had its communal agricultural lands pasture lands and woodlands and functioned as a unit in external relations Each recognized a founder a common ancestor of all members kept his body or mummy sacred and built a ceremonial cult around his reverence In the four years between 1615 and 1619 a century after the Conquest the Spanish collected 1365 mummified bodies of adored ancestors

In imperial days non kinship institutions were superimposed on kinship ones or developed from them the fundamental features were retained or slightly modified and the ayllu became the smallest social unit in the Inca system More stress was laid on community of residence than on that of kinship With the establishment of a class of nobility and its caste marriages strict endogamy became impossible probably it was still enforced for commoners but apparently it was one of the first features to disappear with the Spanish conquest.

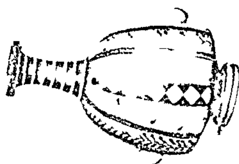
The Inca empire replaced allegiance to a familiar local chief by reverence to a distant foreign ruler and drafted men for distant wars in which they had no patriotic interest. This naturally had quite an effect on the attitude of the commoner New ayllus were frequently formed especially as a result of the resettlement

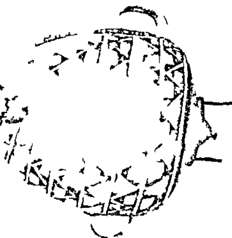


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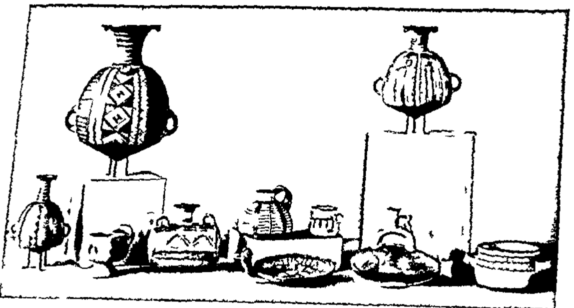


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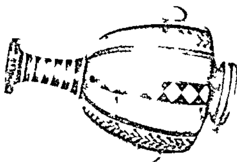




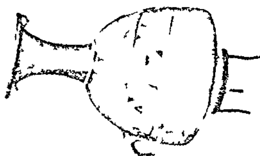


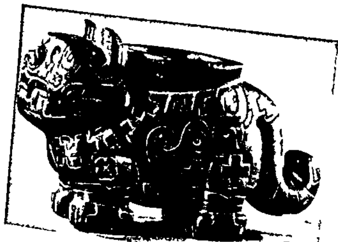


P tt ry e l of lnc t p nd per od









(A) Stone puma Chavin art styl



(B) Inca st ne bowl

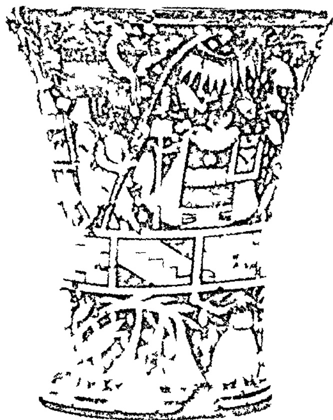




Wood n g bl ts o *quero* I ca and Col n al p riods



B m tall c knife Coppe bl d w th gold bi d on h ndle





Chumu fa mask of th n b t n gold



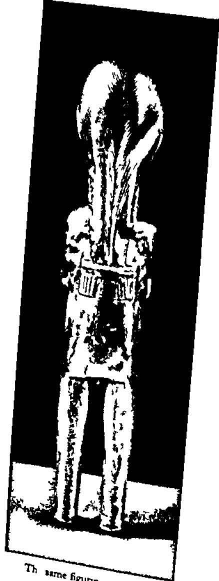
Chimu metal vases the larger of sil er the smaller of gold



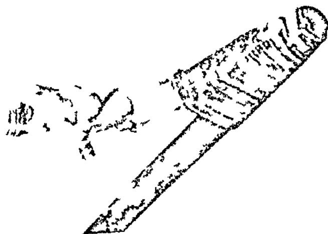
Chimú f c ma k f thin beaten gold



Inca s l er figurine front view



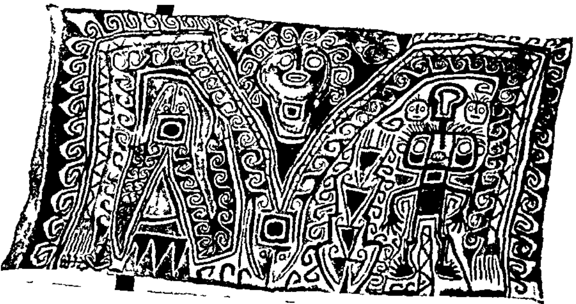
Th same figurin r view





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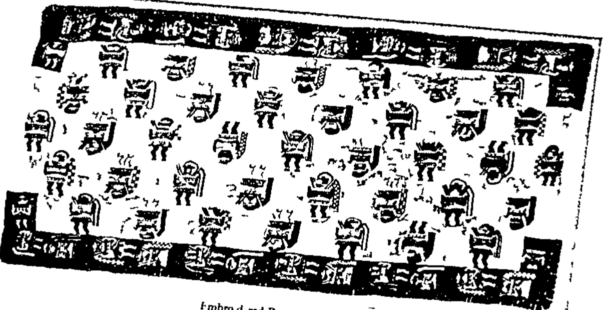




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(A) Tapestry Nazca region and art

(B) Double cloth. Huaca Paraiso



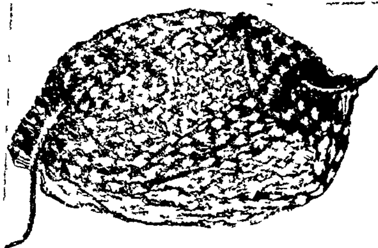
Embro d red P ra as mantl

(A) Tapestry Nazca region and art

(B) Double cloth Huaca I ra so

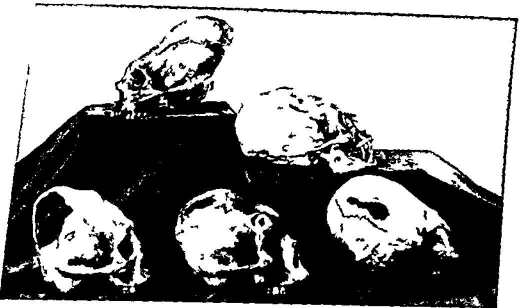


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(A) Hair net Pachacamac

(B) Three-dimensional needle knitted borders Nazca region



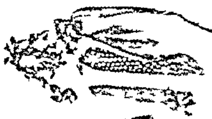
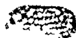
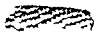
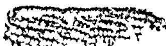
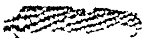
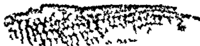
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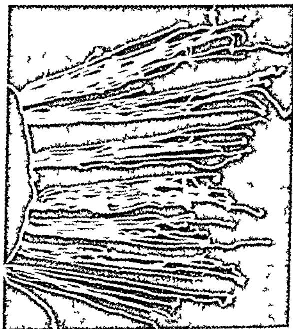


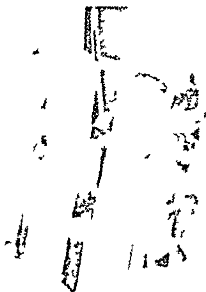




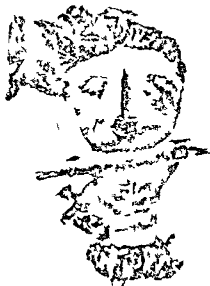

D f rmed and trephin d skull

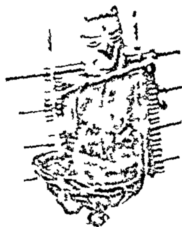






P ttery figu e from a o te of the n rthern nd ntral co t



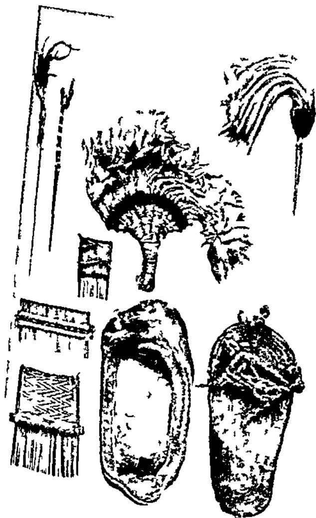



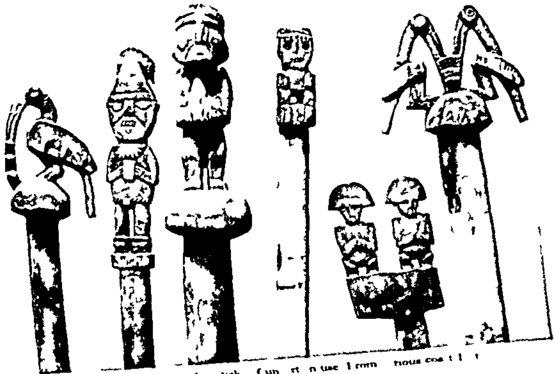


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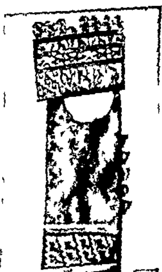




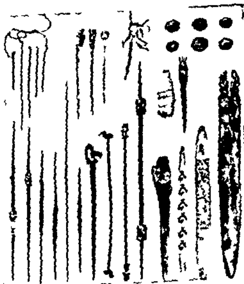





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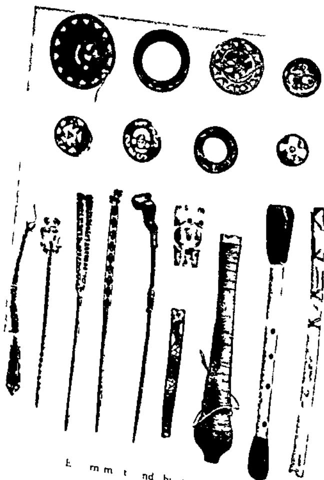
(A) Pr b bly handle of a p t d rem n al centre bo rd fo ft r bo t P gi n



(B) Wea ng impl m nt f om c ntral and southern co st s te

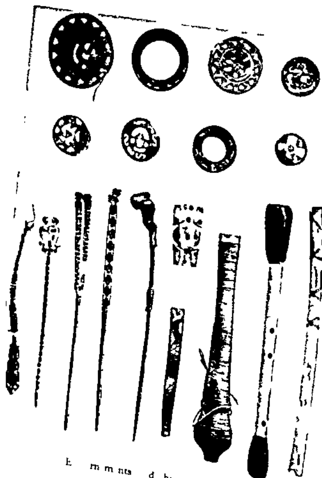


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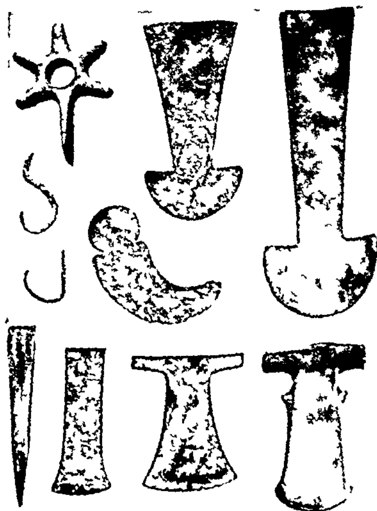


E mm m t nd bj t f bo

Small objects of carved wood



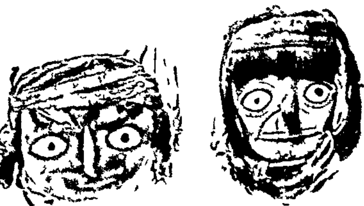
E m m nts d bj t f bo



Impl m nt f pp nd h m



Impl m t d m m f pp and l



(A) False heads of mummy bundles Pachacamac

unit, which engaged in a moderate amount of barter with ne gh bors The curaca was exempt from labor in the fields but it must have been relatively simple for a middle sized community to support him and his fam ly

(d) The multiplicity of linguistic stocks in the Andean area limited the native to associations with related groups or tribes

(e) This was even more the case in their religion Most ayllus limited their cult to their own tutelary and totemic (sic) super natural be ngs and only occasionally displayed some interest in the cult of the neighboring ayllus

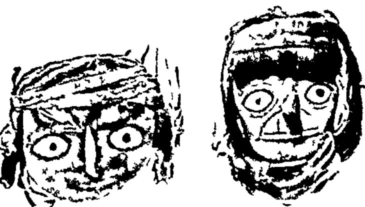
These five observations concerning the Andean ayllu com mun ties are l terally true only of thos that lived isolated and were not m mbers of any all ances confederac es or feudal states Such a state of isolation and of complete independence was not p evalent in this area It is useful however for the purposes of analysis to understand first the above *simplified typ cal case* Numerous changes occurred under Inca rule

Bram then points out the great changes which incorporation n the Inca empire produced in the life of the ayllu and of the ndividual They became relatively unimportant elements in a great organization instead of prominent entities in their pro vincial sphere They were forced to take part in enterprises in which they had no interest to contribute produce and labour to the support of distant projects and persons Individuals from the village were taken to Cuzco or other distant places to be hostages soldiers craftsmen servants sacrifices or concubines Those that returned had broadened horizons through the experiences of travel, and introduced new points of view to the community

The ayllus of pre Inca Peru may have originally been grouped into two divisions or moieties a rather common custom in primitive societies but this dual division did not always fit into the imperial pattern and in very populous regions three groups were sometimes made In general however there were two moieties known as the Upper and the Lower each ayllu be longed to one or the other Those of the Upper moiety were given precedence over those of the Lower and the two were rivals They also showed a tendency toward endogamy

The ayllus of a region, at any rate were grouped into two — sometimes three — *saya* or sections and these formed a province

G



(A) Fals heads of mummy bundles Pachacamac

bundl P ch c mac

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Some of the chroniclers state or imply that this system of decimal representation was a rigid one and this has also been accepted by many writers on the Inca But in the nature of things it would have been unworkable the constant alteration in the numerical content of families and ayllus by births and deaths would have necessitated continual reshufflings and reclassifications A man was presumably made the leader of a certain group an ayllu or a saya and given the rank called for according to the approximate number of families that his group proved to contain

These numbers of taxpayers were determined by exact records constantly kept up to date by reports of births and deaths made by the foremen and forwarded to their superiors The totals for major areas were recorded decimally on *quipus* and sent annually to the census office in Cuzco so that the authorities there had at any time an approximately correct record of population statistics for the entire empire In these records each individual was classified in one of a number of age grade categories according to his physical status from dependent babyhood to dependent senility The chroniclers differ greatly in their reports on these groups given from six to twelve classes The latter that most generally quoted, seems unreasonable since it makes four classes below eight years of age years certainly of slight importance to the empire Possibly the categories differed in different regions The great important class of course was that of the *pu ic* the able bodied adult man aged from about twenty five to fifty years and capable of doing a hard day s work in the fields the army or the mines He was the unit in the social system and represented his household The classification applied only to male commoners but there were probably other census records for women

(*guaman*) In the case of conquered peoples – the greater part of the empire – the province corresponded to a former tribe or native state the provinces therefore differed considerably in size and number of population Each province had its capital city the centre for political and religious administration and the inhabitants of each province wore some distinctive standard feature in their head dresses

The provinces were further grouped into one of the four quarters (*suyu*) into which the great empire was divided Cuzco the Inca capital was the centre geographically as well as politically of all for the division lines ran roughly north and south east and west The north western quarter Chinchasuyu included Ecuador and northern and central Peru the south western Cuntisuyu consisted of southern Peru to the north east was Antisuyu consisting largely of the eastern foothills and forests Collasuyu to the south east comprised the great highlands of the Aymara the basin of Lake Titicaca most of Bolivia north western highland Argentina and northern Chile this was the largest of the four quarters The whole empire was appropriately called the Land of the Four Quarters Tahuantinsuyu

An Inca noble was the resident administrative official in each provincial capital and the governors of the four quarters formed the great council of state in Cuzco these also were Inca nobles of high rank generally close relatives of the emperor but their posts were not hereditary The council reported its suggestions and opinions to the emperor for his decision and action

Below the provincial governor were the *curacas* of four ranks according to the number of men – or taxpayers – over whom they had charge the latter were enumerated according to the decimal system The curaca of lowest rank was the chief of one hundred men he of highest rank of ten thousand The post of curaca was hereditary subject to imperial approval Over smaller groups of men fifty and ten were foremen of two ranks these were commoners appointed by their curacas and their offices were not hereditary The two classes of leaders may cogently be compared with those in an army corporals and sergeants over small groups commissioned officers over progressively larger numbers The official Inca titles of these officers of eight ranks below the em

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Chapter 12

POLITICAL ORGANIZATION AND GOVERNMENT

THE Inca state was a queer blend of theocracy monarchy socialism and communism its categorization in one system or another depending mainly on definition It has often been termed a socialistic empire [1] for it was an aristocratic and autocratic socialism not a democratic one Land was the property of the state and much of it was communally worked Most of the llama herds were also state property as also were the mines These were almost the only means of production The state insured the people against hunger exploitation undue hardship and all kinds of want but regimented them rigorously and left them no choice independence or initiative There were neither booms nor depressions It was the welfare state *par excellence* toward which our modern democracies now seem to be (1956) tending It however was at least efficiently administered malfeasance misfeasance and nonfeasance on the part of officials were equally severely punished – or claimed to have been

However the Inca empire differed from the modern ideal of a socialistic welfare state in that there was a large class of nobles and priests supported by the masses Heavy tribute in the form of labour was demanded of the peasants who profited very little from it

All arable land was divided into three categories though not into three equal parts although fields of the three classes were necessarily close together The produce of those of one class was for the government of the second for the gods and religion and of the third for the people Although the first two were given primary consideration their size depended on the population for each family was first allotted just enough land to keep them comfortably fed without hunger the balance was divided between state and church Each year the land was reallotted by the local

1 Baudin 192 a 1928 Karsten 1949

official – at least the communal land – and each family was given according to its current needs the same as or more or less than the preceding year according as the number of persons in the household may have increased or decreased

The system might be termed agrarian collectivism rather than communism Although in late days the land was considered the property of the state i e of the emperor it was controlled by the ayllu the local clan group communally ayllu ownership doubtless long preceded imperial days Probably also the pattern of lands communally cultivated for the state (formerly for the local chiefs) and for the church (formerly the local priests) was an ancient Andean one adopted and enlarged in imperial times Probably the greater amount of land allocated to church and state was offset if not more than made up for by the agricultural land produced by state enterprise making formerly sterile acres arable by irrigation and terracing In the periodical allocation of family fields it is reported that one *topo* (page 230) of land was assigned to each married couple an extra strip for every son and half a strip for each daughter

The boundaries of the fields especially those separating communal state and church properties were well marked and their removal was a great and almost unheard-of crime

On the whole the state lands seem to have been a little larger than the others for reasons that we will see later State overseers constantly supervised the non communal lands and the common peopl respected their sanctity and inviolability so much that they never crossed them without repeating ritual prayers for this special purpose

The non-communal lands were cultivated by the people *en masse* and before their own fields those of the gods first When time for sowing or harvesting came the commoners were called by the officials to work the sacred fields At the inception every one laboured commoners officials nobility and even the emperor himself The latter offered only a token of work and the nobles soon followed suit, those of lowest rank labouring the longest and soon only the peasants remaining The emperor or the highest official on the spot, inaugurated the work with a golden implement

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applied to the herds of llamas and alpacas as well as to the pasture lands both were divided into three groups for church state and people In this case because most of the wool was distributed by the government and few animals were killed except for sacrifice the allotments to the church and state were much greater than those to the populace Ten animals was the limit for any commoner nobles were allowed more The majority of the stock belonged to the government which gathered the wool into storehouses and distributed it to the families in proportion to their size enough to clothe all the members In this distribution no deduction was made for the privately owned animals the man who owned many received as much as he who owned one

Each family made its own clothing from the wool distributed by the government as well as making all other household equipment and tools These together with house stable storehouse and small domestic animals were practically the only private property

In addition to agricultural service on state and church lands each commoner was required to perform a certain amount of other public work each year This obligation was known as *mita* These men provided recruits for the army labour on the roads and brid es and in the mines runners on the post roads personal service for the nobles and other public work The number of men needed was determined and a definite percentage of these was selected from each district Tradition reports that thirty thousand men were thus employed in building the great fortress of Sacsahuaman It is also said that unnecessary work was often made just for the purpose of keeping these selective service recruits busy Like every good army sergeant, the officials knew well that Satan finds some evil still for idle hands to do and that the busy man has no time to complain or foment revolt

There were certain districts that were exempt from this mita service because they provided special materials or services Thus the Chicha made carved logs of a resinous wood to be used for sacrificial fires the Rucana supplied the litter bearers and the Chumpivilca the trained dancers for the court.

Craftsmen and other skilled labourers whose work required

The fields were divided up by lines a section to each family so that the man with the most household assistance finished his job first Like all co operative labour it must have been a jovial and not an onerous occasion with plenty of chicha beer singing and bantering The songs perhaps in honour of the god when working the church lands or in praise of the emperor while engaged in the state fields were appropriate to the occasion As soon as the fields of the gods were finished the work was repeated on the government lands and then the people were free to cultivate their *own* fields There was a communal spirit of helpfulness and if a man was called away on state business such as military service his neighbours quietly attended to his agricultural needs

The harvests from the state and religious fields were gathered into separate storehouses of which the government maintained two sets in each district Other and probably more and greater storehouses were built at the provincial capitals and at Cuzco For fire protection each set consisted of a number of small buildings sufficiently separated

The food from the religious storehouses served to support the numerous priesthood and for sacrificial and ceremonial purposes The government s store was drawn on for the support of the nobility and all state officials artisan craftsmen the army and all other non religious non producers In the latter category were the aged infirm and widows The state storehouses also served as insurance against unforeseen calamities and acts of God – earthquake storms and other causes of crop failure The curacas were authorized to draw upon these stores in the event of such disasters and famines In seasons of plenty when the storehouses were too full to hold the new crop the emperor ordered a stock dividend distributing the food to the people so that they might eat more heartily and be more contented In such circumstances food from one region was sent to another where it was not grown so that the people might enjoy a change of diet Potatoes were never destroyed because of over production the gods would have been angered and would have withheld the next harvest

In the highland grazing regions the same triple division was

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Another important group exempt from the usual labour tax service consisted of men known as *yanacona* These were selected in youth removed from their ayllus with which they lost all connexion and taken for service in other parts In fact some authorities believe that the craftsmen were included in the yanacona category The status of both was hereditary Like the 'Chosen Women next to be mentioned boys were selected and placed at the disposal of the emperor who employed them in state service as pages servants temple attendants supervisors and similar offices or gave them as rewards for faithful and efficient service to favoured nobles and warriors Though the latter apparently often used their yanacona labour for ordinary agricultural work nevertheless the boys were certainly selected for unusual intelligence ability or promise and most of them used their positions to rise to posts of considerable importance Many of them were sons of curacas Their status is a little difficult to define they can hardly be considered as slaves but in effect they were However the close relationship between them and their masters gave them great opportunities to receive favours and to be placed in positions of responsibility Some of them rose to be curacas themselves

The Spanish conquerors took full advantage of the yanacona relationship and enlarged it greatly drafting great numbers of young men as servants on their estates agricultural labourers and miners these of course were practically slaves with no prospects for advancement or economic improvement

Regimentation also extended to the women Of course almost

all of them became wives and mothers of commoners and participated in their husbands agricultural activities as well as having their own domestic ones These however were the less attractive and less talented women and were known as the left out girls *hauanpascuna* since the choice maidens were selected for public service

A government official visited each village at intervals and classified all the girls at about the age of ten The most beautiful and physically perfect were chosen and sent to be educated in convents in the provincial capitals where they spent about four years learning domestic science religion weaving cooking chicha manufacture and similar duties They were known as *aellacuna* Chosen Women A few were also chosen to be sacrificed on solemn occasions these were especially honoured and particularly proud and happy at their selection since it assured them of an after life of happiness and leisure

After completing their educations the girls were again classified Many were given by the emperor to nobles as secondary wives He doubtless kept the *creme de la crème* for himself The others were consecrated to the service and homage to *the* Sun and became the Virgins of the Sun *mamacuna* sworn to permanent chastity Some were attached to each shrine or Sun Temple where they wove the fine textiles used in ceremonies and worn by the priests and prepared the chicha for festivals They had considerable resemblance to the nuns of a religious order and were headed by a high priestess who was of the noblest birth and was considered the wife of the Sun. The convent in *Cuzco* was of course the largest and most important, but others presided over by a priestess of noble birth were connected with the temple in each provincial centre

The Empero and the Nobility

The Inca emperor was an absolute despot but distinctly not a tyrant using these words in their proper senses nowadays so often confused That is his power was limited only by custom but it *was* thus limited. To his subjects he was an omnipotent

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his palace and the maintenance of his cult For each emperor built himself a new palace which was later used as his shrine and mausoleum At the time of the Conquest these de cendants of the emperors amounted to about five hundred This large body of aristocratic men formed a valuabl court around the current living emperor and from them he chose most of the higher officials

There seems to have been no very definite rule for succession to the throne The emperor named his successor always his son and generally the most capable of his sons by the *coya* his principal wife The boy probably had no formal education – for who could instruct a living deity? – but was trained for his future exalted position by his parents and learned by court example

When the heir apparent reached puberty he was by no means exempted as any European princeling would have been from the fatiguing trials of the manhood ceremonies that were held annually for all the boys of the noble class who had reached that physical stage during the past year These rites were meant to test the physical and psychological fitness of the youths for the portions of authority that they were to hold and the Peruvians had the proper idea that the higher the rank the greater the required capability So the young Inca prince was given no leniency and was even treated with more than usual severity he was expected to outdo the others in physical effort and the en durance of hardships

When the time came for the new ruler s inauguration or in stallation he fasted fo three days in a house built especially for the occasion and was then invested with the royal fringe in a great public ceremony at which each noble swore allegiance This was followed by a feast lasting for several days

Upon his death the members of his ayllu took charge of the elaborate funerary ceremonies which were observed throughout the empire The body was preserved in his palace by the primi tive means of mummification in vogue The entrails were re moved and preserved in a special container and the body was dried and carefully wrapped in the finest textiles The mummy was thereafter waited upon as during life even it is reported having women constantly standing at its side with fans to keep

tribal god merciless to their enemies firm but just to his subjects and worshippers The comfort and peace of his people was his primary and constant concern He could hardly be said to have been a legal ruler since he was above the law – his word *was* the law – but so strong was the force of custom and precedent that he probably never violated them to satisfy personal spite

The Inca emperor was the supreme ruler of the state and could with better reason have echoed – or anticipated – Louis XIV s claim to *be* the state As a lineal descendant of the Sun he ruled by divine right and was worshipped and implicitly obeyed as being himself divine He was believed to be intimately associated with the Sun and his health affected that of the latter

In the earlier years of the empire the emperor married the daughter of a neighbouring ruler as among recent European royalty but in the last three or four generations before the Conquest his person had become so exalted that none but his own sister could be considered a fit consort Here was the *ne plus ultra* of the idea of aristocracy of blue blood none but a replica could be an equal The same sentiment and ideal were in vogue among another great people of antiquity the Egyptians for generations the Pharaohs married their sisters Contrary to popular folklore in both cases this – to us – incestuous marriage seems to have produced capable vigorous rulers All the historic Peruvian emperors were men of unusual energy and capacity Close inbreeding among animals has long been practised to produce superior stock and there is no reason why the same should not be true of humans if there is no weakness or defect in the heredity

Like many Oriental potentates the emperor was also allowed a large seraglio of secondary wives generally taken from the Chosen Women These concubines were not as is often stated the Virgins of the Sun another group of Chosen Women vowed to permanent chastity The secondary wives prepared the emperor s food made his attire and performed the usual domestic duties

Naturally the emperor had a large number of offspring who belonged to the nobility and were accorded special privileges The descendants of each emperor in the male line formed a special royal ayllu whose duty it was to attend to the upkeep of

servants was looked upon as an offence committed by their village and for one man's fault all the inhabitants were chastised more or less severely according to the offence. If the offence was committed against the royal majesty the village was levelled with the ground. It must not be understood that the wood cutters went to the forest for fuel but that they found it provided in the palace being brought there by the vassals as well as all other things for the royal service. And these employments were much prized among the Indians as they enabled them to be nearer the royal person, which was an honour they most esteemed.

The villages which furnished these servants were those within six or seven leagues of the city of Cuzco and were the first which the Inca Manco Ccapac ordered to be formed by the savages whom he reduced to subjection. The inhabitants of them by his special grace and bounty he called Incas and they received the insignia and dress of the royal person.

The emperor's clothing was of the same pattern as that of all men but was of the finest materials specially woven or made for him by the women of his household. His most characteristic ornament was a wide fringe the royal insignia with which he was invested upon assuming rule. This about four inches wide was composed of small gold tubes from which hung red tassels. The head dress itself was rather simple a braid (*llautu*) wound several times around the head. He wore very large ear plugs. The higher members of the nobility were also allowed to wear ear plugs head bands and fringes but always of other colours and smaller or of less fine materials. The emperor wore his hair rather short.

The royal throne was a low stool of red wood only about eight inches high and covered with a rich cloth; thus was placed on a raised platform. A small square stiff painted cloth pennant was the royal standard but the emperor personally carried a war club or mace with a star head of gold. Two similar ones on long poles were carried to flank the royal standard.

Like the simplest of his subjects the ruler slept on the floor on a large cotton quilt covered with woollen blankets. He ate from the most ornate containers of gold, silver or pottery. No one else might aspire to enjoy his superior goods so all his discards and left-overs clothing food or whatnot were carefully

the flies away! During the greatest public ceremonies the bodies of the emperors were brought out into the sacred square of Cuzco under the care of their descendants The mummies of all the Inca emperors were seen as late as 1559

It was expected that the deceased emperor s favourite wives and servants would volunteer to accompany him in death and probably each of these did his or her duty as he saw it confident of his reward in the after world They were intoxicated probably with chicha beer during a great dance and then strangled

The august emperor s presence could be approached by few and with the greatest humility by these few Usually in inter views he was invisible behind a screen a face to face reception was an honour accorded to only the greatest or the most favoured No one however no matter what his rank or blood could enter the chamber without removing his sandals and placing a small burden on his back to indicate his humble position When travel ling the emperor was carried on a litter by men from the province of Rucanas who wore a special livery His retinue on such a journey amounted to several hundred men to clear the road and relieve the bearers Both on account of this large number and the slow pace that his dignity required a day s journey averaged only about twelve miles

Other servants of the imperial court also were recruited from particular villages and regions Garcilaso s[1] remarks upon this subject are pertinent

> The attendants for the service of the palace such as sweepers water carriers and wood cutters as well as cooks for the table of the courtiers (for that of the Inca himself was served by his con cubines) porters keepers of the wardrobe warders of the treas ure gardeners hunt men and all other servants holding similar positions to those in the houses of the kings and emperors were not persons chosen by chance But each office was filled by natives of particular villages whose duty it was to supply faithful and efficient men in sufficient number They were changed at certain intervals and this was the form that the tribute took in those villages Any negligence or inefficiency on the part of the e

1 Garcilaso de la Vega Part 1 Book 6 chapter 3 Vol pp 107-8 of Markham s translation (1869-71)

though no scarcity They went to bed early and got up very early to do the business of the day

In a period of only about thirty years the Inca empire expanded from a relatively small homogeneous state to an immense empire containing dozens of alien peoples with different languages and diverse governmental patterns To keep these dissident elements in subjection and peace required a tremendous increase in the number of reliable administrative officials Up until that time the Inca pattern had been to select officials from the more capable members of the royalty blood relatives or descendants of the emperors but now there were too few of these and every official who showed any administrative ability was quickly advanced to a responsible position and placed among an alien group to enforce the will of the emperor It was just as at the beginning of our recent World Wars when a capable Navy warrant officer soon found himself a commissioned lieutenant or a regular army sergeant a captain drilling a company of raw recruits It is not certain however whether an ordinary commoner could ever rise to the nobility

When a former ruler or leader of one of the conquered peoples was willing to accept the new regime he was confirmed in his position and his children were taken to Cuzco as hostages There they were educated and indoctrinated in Inca ideology in what seems to have been the only formal school in the empire Probably the sons of Inca nobles also attended the school or certain classes of it It is reported to have been as in most modern colleges a four year course the first year spent in learning the Inca language the second in Inca religion the third in the intricacies of the *qu pu* (the knot records) (see page 226) and the fourth in Inca history The teachers were firm believers in the pedagogical qualities of the rod, but the caning was applied to the soles of the feet However this phase of instruction was by custom, limited to one application of ten blows per day

On the father s death a son succeeded him An able son of a former low rank official now enjoying a high position of authority among an alien group was likewise appointed to his father s position and in every way the Inca strove to follow their

saved and ceremonially burnt once a year by an official On the latter point however as on many others the chroniclers differ Garcilaso[1] says that the emperor gave his once used clothing to another member of his family Garcilaso s description while probably not entirely reliable as to details gives a good impression of certain phases of the emperor s life

The Inca usually sat on a stool of solid gold called *tiana* without arms or back and with a concave surface for the seat It was placed on a great square board of gold All the cups for the whole service of the house as well for the table as for the kitchen, were large and small of gold and silver and some were placed in each depot for the use of the king when travelling This was done to avoid the necessity of carrying them about with him and thus every royal lodging whether on the roads or in the provinces was fully supplied with all he required when he marched with his armies or visited his people

There was also great store of new clothing both for wearing and for the bed for the Inca never put on the same dress twice but gave it to one of his relations All his bed clothes were woollen woven from the wool of the vicunas which is so fine that among other things belonging to that land it has been brought over for the bed of the king Don Philip II These blankets were placed both under and over They did not use mattresses because they did not want them for when they saw those used by the Spaniards they would not have them in their houses They seemed to be too great a luxury and too artificial to be in conformity with the natural life that they profess to lead

They did not have tapestry for the walls because they were covered with gold and silver The dinners were very plentiful as they were prepared for all the Inca s relations who might come to dine with the king as well as for all the servants of the household who were numerous The hour for the principal meal both for the Inca and for the people was eight or nine in the morning They supped before the light of day was gone and these were their only meals They were generally bad eaters that is to say they ate little But they were not so abstemious in drinking They did not drink during the meal but they made up for it afterwards and their potations were continued until night This was the custom of the rich for the poor had only sufficient of all things

1 Garcilaso de la Vega Part I Book (chapter 1 Vol 2 pp 100-1 of Markham s translation (1869-71)

another in a higher category until the last was the emperor him self The laws of the emperor moreover were accepted by both officials and commoners as those of divinity itself and therefore just and inexorable Disobedience and infractions were exceed ingly rare and sternly punished

Though, theoretically all commoners were of the same eco- nomic status as in every society a few seem to have secured more than their share of goods especially in the possession of llamas There were also very poor ones who had somehow lost their ayllu affiliations and drifted to the large cities The women of this class were probably the prostitutes of which there was a large group in Cuzco

In another respect also there was some economic inequality The commoner with many children especially boys to help him with labour on his farm and his tax labour was deemed richer than the man with few – or female – children

War and Conquest

Among most American Indian peoples of relatively low cultural status, inter group hostility and combat can hardly be dignified by the name of war Hostility was felt towards all neighbouring groups culminating in small semi private war parties It as sumed a mo e national character with the larger sedentary groups in more thickly populated regions and with the Inca it became the primary instrument of national policy Warfare in Peru doubtless went through these sequential stages In the earliest days the villages were constantly at enmity the hostilities of small scope later the growing states especially those on the coast such as the *Chimu* probably had organized armies but Inca warfare was of a grade that surpassed everything else in pre Columbian America The causes were complex but war became a most important feature of Inca culture While based on the primitive Andean pattern of warfare it naturally evolved prac tices suited to large scale operations with immense armies

Though some of the earlier wars both of the Inca and of other Peruvian peoples may have had an economic basis economy

pattern of an hereditary aristocracy The noble class was thus greatly augmented and fell into two classes the higher and the lower aristocracy possibly better distinguished as the royalty and the nobility

The higher aristocracy was termed the Inca class by the Spanish chroniclers its nucleus consisted of the real old royalty Incas by blood descendants of the emperors in the male line Since these were not sufficient to provide the necessary officials the Emperor Pachacuti extended the privileges of Inca nobility to all the inhabitants of certain districts all of whom spoke Inca as their native language and practised Inca customs many of these were sent as officials to newly conquered distant territories They were all given the privilege of wearing large ear plugs and all the other perquisites of the Inca royalty

The lower class of nobility or aristocracy was known as the Curaca class and consisted of the former independent conquered leaders who had been confirmed in their positions and all other administrators down to those over one hundred persons

Both the royalty and the nobility were allowed many privileges such as the use of litters parasols and attire somewhat resembling the emperor s secondary wives luxury articles and *yanacona* servants They were exempt from taxation and were supported by the government Llamas and land were also awarded them for efficient service but in accord with the basic Inca (and usual pan American) principle regarding land the latter was considered as the property of the group and not of the individual The noble might enjoy its usufruct but could not dispose of it at his death it was similarly used by his progeny While the nobility composed a relatively large group numerically they formed only a tiny fraction of the entire population

Although in Incaic Peru there was a large body of non producers slavery of the type of the ancient Old World despotisms was unknown the entire class of commoner peasantry contributed equally to the support of the officials priests and aristocracy There being no money no capitalists no private property except for the simplest and most elemental possessions all taxation was in the form of labour service This was accomplished by stringent rules or laws enforced by officials each responsible to

the emperor These of course were a picked group Atahuallpa executed those who broke ranks when naturally frightened by their first sight of a rearing horse The army was subdivided according to the same decimal system that was employed with the civilian population with the same pyramidal ranking of officers

As with the Mediterranean the Aztec and most early conquering nations with large armies Inca warfare was based on close in fighting with hand weapons The bow and arrow the usual American Indian weapon in fighting as in hunting was not employed by the mountain tribes though of course it was known and was used by forest Indians in the Inca armies It was little used on the coast also in both regions suitable wood was scarce Nor were javelins and throwing spears employed in Inca times though they had been in earlier days Their use lasted until the Conquest among the natives of the coast who cast them with the help of spear throwers archaeologically the spear thrower is very old in America (Plate 46A) The spears were of hard wood with fire hardened points

Inca battles however generally opened at a slight distance with the use of slings and bolas the missile arms these are more adapted to the open country of the Peruvian highlands The sling was not the forked stick and rubber band weapon of the modern boy but rather of David s Goliath killing type Generally of braided wool or fibre it was up to six feet (2 m) in length with a wider cradle for the stone in the centre Doubled with both ends held in one hand it was whirled around the head to give momentum and then one end released thus hurling the stone with great force and – with practice – great accuracy The sling constantly carried to kill or frighten away small animals or to drive domestic ones was as ubiquitous as a modern Mexican s *machete* and was often worn as a fillet to keep the hair back

The bolas consisted of several stones each fastened to the end of a cord or thong and the latter tied together at the other ends Thrown they whirled by centrifugal force and covered a considerable area wrapping around the victim s body or legs this also was primarily a hunting weapon

After the first stone hurling the Inca warriors closed in for hand to-hand combat The main arm of the common soldier was

was certainly not the primary cause of war and it was lacking entirely in the later days of the empire Then it was a desire for aggrandizement and increased power on the part of the emperor and the policy makers and an ambition to excel and to achieve glory and the advancement perquisites and favours that fell to the brave and victorious warrior on the part of the subordinate leaders the common soldier was the traditional cannon fodder Each new Inca emperor aspired to outdo his predecessor Unlike the Aztec annual tribute was not demanded of the conquered though some looted spoils of victory were taken at the time of the conquest Indeed some conquered regions were so economically ill favoured that their acquisition was more a liability than an asset The nobility were already so well off that they could use little more Neither was there the urge for captives for sacrifice that animated much of Aztec war and the subjugated peoples were not enslaved or made to work any harder than the victors Nevertheless war was on the whole advantageous to the Inca – and probably also to the conquered peoples The life of the people was so regimented and channelled that war presented practically the only opportunity for competition and manifestation of superiority Moreover in later days at least the large organization needed by the immense forces almost required that the army be a standing one permanently in action and the rulers knew well that unless busy with foreign wars the generals might well plot revolution Some of the wars were obviously planned to prevent peripheral enemies from stirring into revolt their recently conquered neighbours

Doubtless among all Peruvian groups every able bodied man was a potential warrior and had received some training in warfare since boyhood to be incapable or inefficient was a disgrace In the days of the Inca empire every ordinary man in the proper age class was liable to military service and practically all of them certainly served their terms It is obvious that with the size and extent of the army and the empire most of the troops came from recently conquered peoples with little interest in subjugating others the actual Quechua Inca of the Cuzco region were so relatively few that they served only as higher officers The only force of regulars professional soldiers was the bodyguard of

ever the troops were under strict control no deviation from the ranks was tolerated and any foraging or molestation of non combatants was severely punished

Though most military operations were pitched battles in the open the art of fortification was rather well developed Temporary breastworks and trenches were apparently never used but most important towns had hill top forts to which the people retired in case of attack and the large centres such as Cuzco were provided with great fortresses These were often constructed with considerable military engineering skill with walled terraces on the hillside bastions and salients The great fortress of Sacsahuaman (Plate 15) (see page 159) overlooking Cuzco is the most noteworthy example but many others both in the high lands and on the coast remain to attest to the quality and nature of these works

Capable and experienced generals had many military manœuvres strategies and ruses up their sleeves and the history of the Inca contains many of these Grass was fired to demoralize an enemy army it was led into an ambush in a ravine and overwhelmed with boulders Retreating apparently defeated from a battle the Inca force would return and surprise the confident and unwary victors the following dawn The army was frequently divided and a large part of it kept in reserve for a surprise attack

The great success of the Inca armies was in large measure due to the recognition of the truth of the aphorism that an army travels on its stomach The commissariat was efficiently planned and operated In the organized parts of the empire supplies were available in government storehouses beyond its limits they were brought by trains of pack llamas The storehouses were so frequent along the high roads that the marching troops could always make their night camp at one

Few captives and these mainly the leaders were brought back as prisoners of war The emperor trod upon the conquered chiefs as a symbol of their subjection to him they were sometimes marched through the streets of Cuzco in a triumphant victory parade A few of the prisoners might be sacrificed and a few of the culpable or dangerous leaders tortured flayed killed or

the club generally with a doughnut shaped stone on the end this was often modified to a star shape with a number of points especially in club heads made of copper or bronze A double-edged sword of hard wood which has given its Quechua name *macana* to this weapon was another arm this was a heavy two-handed sword, and the wielder carried no shield There were also various types of battle axes and poleaxes with blades of stone or copper The long wooden spears had fire hardened ends or tips of copper or bronze

Armour had been considerably developed among the Inca troops Quilted cotton shirts or lengths of cloth wrapped around the body were worn These were so efficient against native arms that the Spanish adopted the custom in preference to their heavier and hotter steel armour Helmets of wood or plaited cane protected the head and shields of wooden slats were worn on the back Smaller round or rectangular shields were carried in the hand these were generally covered with hide and decorated with some coloured ornamentation of figured or painted rug or feather mosaic Like the Roman *testudo* a great strong cloth that could cover many men was sometimes used in siege operations

Except for these protective devices the Inca soldier wore the usual man s costume without the cloak Almost all wore round metal plaques which were a sort of military decoration probably awarded by the commanding officer for valour copper for the lowest rank gold for the highest There was probably no military band *per se* but martial music was produced by small drums trumpets and flutes and the fighting was accompanied by a din of shouts and curses and possibly concerted singing of insulting songs Each company carried a small square stiff pennant which bore the insignia of the group this was fastened to the end of a spear

Compared with their enemies the Inca armies were strong and efficient mainly because of their size and the excellently organized commissariat Of course they were no match for fire arms and cavalry

Excellent discipline was observed in the Inca armies until the ranks were broken *for hand to hand combat from which time* on there was no direction or organization On the march how

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imprisoned Heads were frequently taken as trophies and the skull often made into a drinking cup from which the victor drank chicha War drums were sometimes made of the skin – and even it is reported of the entire body – of important defeated enemies as a particular not to be forgotten insult Necklaces were often made of the teeth of slain enemies and flutes of their shin bones The absence of the frequent South American custom of cannibalism is noteworthy

The main incentive of the warrior however especially of the leaders of whatever rank was glory honours rewards and advancement The emperor was lavish in his gifts to nobles who had served him well they were given secondary wives fine clothing and other handicraft made by the state supported artificers promotion and special privileges such as sitting on a special stool Even for the humble common soldier there were commendatory metal plaques gifts of clothing and similar awards

Pre combat negotiation or diplomacy was a unique feature of Inca imperial militarism Envoys invited neighbouring groups to join the empire pointing out the advantages of alliance the terrors of refusal The efficient socialistic economic system was doubtless advantageous to the ordinary native and the local rulers were generally permitted to retain their positions under the new régime Most small groups and tribes realized the hopelessness of resistance and therefore submitted peacefully the stronger ones generally preferred to fight against odds for their independence almost always ineffectually

Church and state were one in the Inca empire and their motives policies and practices were practically identical with those of many other triumphant nations of the past They firmly believed that they were the superior and master race – for hadn t they proved it both in culture and by force of arms? Like all imperialistic nations they doubtless – and properly – felt that they could utilize the land to better advantage Moreover they brought the blessings of the true religion – that of the Sun – to their benighted heathen neighbours without however interfering with the religious practices of these subjugated peoples

As among most peoples before the recent atheistic ideology

the gods were importuned to lend aid since the war was fought largely for their glory and final victory was ascribed to divine help In addition to ceremonies sacrifices fasts and other rites to increase the sympathy and favour of their gods an incantation was performed before the opening of hostilities to weaken the power of the enemy gods and supernatural spirits To the accompaniment of some magical rites such as the burning of wild birds on a fire of thorny wood the priests prayed that the power of the enemy's supernatural aids might be weakened Holding stones on which figures of various dangerous noxious and fierce animals had been painted they marched around the fire chanting and praying Some black llamas which had been starved for some time were then sacrificed with the prayer that the bodies and spirit of the enemy might likewise be weakened Black dogs were also sacrificed and certain persons compelled to eat the meat During these rites the participants ate only at night

Divination of course played a large part in all military actions and nothing was begun until the auguries proved auspicious The oracles were frequently consulted and inherently lucky days such as that of the new moon were always chosen. In the above mentioned ceremony of the sacrifice of the starved black llamas the hearts were inspected to see whether some flesh near the heart had been absorbed during the deprivation from food the prognostication was bad if it had not.

Each fighting group carried into battle some of its portable idols fetishes or wacas which served not only as morale sustainers and rallying points like modern flags and pennons but also lent their supernatural aid The allies naturally carried those of their own regions and deities As the major idols of the army the Inca carried images or wacas representing ancestors especially former emperors the stones representing Manco Capac and Huanacauri were particular favourites

The surprising success of the Inca in unifying and controlling with such relatively little belligerent unrest such a great empire composed of many previously hostile elements was due almost entirely to their wise policies with regard to newly conquered regions The important elements of this programme were resettlement or colonization and administrative reorganization

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modern Peru and for studies on the anthropology of Peru For the shuffling of populations was carried to such an extent that the empire became a great melting pot and was rapidly on its way to becoming as was the intent of the policy a unified homo geneous nation Although the system had been in effect for less than a century before the time of the Conquest by that time many of the tribes in Andean and coastal Peru had lost their identity their language [1] and many of their peculiar customs The Inca language was made the official speech everywhere and quickly supplanted the native languages This general medium of communication was a great boon to the Spanish who quickly adopted it as a second official language and its use has continued to spread ever since

The extent of the resettlement programme naturally depended on the bellicosity and intransigence of the population In some provinces the major part of the inhabitants were deported and replaced by colonists The new settlers were brought from pro vinces that had been under Inca domination long enough to have lost their desire for independence and to have become rather thoroughly indoctrinated with Inca ideology and familiar with the imperial pattern of government They were always taken from regions with similar climatic and ecological conditions Native born Quechuas from the Cuzco region were of course the most desirable colonists The new colonists were naturally scattered in villages among the newly conquered natives and the recalcitrant elements of the latter took their places sprinkled among the pacified population of the earlier conquered region

These colonists were termed *mitimaes* While under the same provincial authority as the natives they formed favoured groups receiving special gifts and privileges They formed Inca garrisons whose responsibility it was to set an example to the benighted to convert the heathen to the true faith and to teach the superior Quechua language to the barbarians[1]

Garcilaso gives a good description of the Inca *mitima* practice and attitude towards it – or at least his interpretation thereof

1 Mas n 195

2 Garcila d l V g P rt 1 Book chapt 1 Volum pp 13 215 of M rkham s tra l tion (869–71)

As soon as armed resistance had ceased a careful survey was made of the region and a census taken of its population The survey took into account all geographical features village sites arable land water supply etc and was recorded in clay relief models the census noted the inhabitants by the age grade Inca system these were registered on *quipus* Such data as the number of llamas were doubtless included All these records were then forwarded to Cuzco where they were studied carefully by the emperor and his advisers who then drew up a programme A provincial capital was chosen and official buildings erected there and the people were moved from their protected towns and hill top fortresses and made to settle on or near their arable fields

Cieza de León[1] gives a vivid description of Inca resettlement practices of which he rather approved

> Having established a governor with garrisons of soldiers the army then advanced and if the new province were large it was presently ordered that a temple of the Sun should be built and women collected for its service and that a palace should be erected for the lord Tribute was collected care being taken that too much was not exacted and that no injustice was done in any thing but that the new subjects were made acquainted with the imperial policy and with the art of building of clothing themselves and of living together in towns And if they needed any thing care was taken to supply it and to teach them how to sow and cultivate their lands So thoroughly was this policy carried into effect that we know of many places where there were no flocks originally but where there has been abundance since they were subjugated by the Incas and others where formerly there was no maize but where now they have large crops In many provinces they went about like savages badly clothed and bare footed until they came under the sway of the Incas and from that time they have worn shirts and mantles both men and women so that they always hold the change in their memories

The Inca programme of resettlement and colonization was an element of the greatest importance not only for the peace of the empire but for administrative problems in colonial days for

1 Cieza de León Part II chapter I pp 49 50 of Markham's translation (1883)

retain their former head dress or required to adopt some other distinctive one as an identifying symbol

Rather similar in their melting pot result but in a slightly different category from the mitimaes were some colonies of Aymara on the coast and on the warm slopes of the eastern mountains The Aymara inhabited – and inhabit – the highest chilliest and most inhospitable parts of the plateau and to permit them access to tropical or semi tropical fruits and other desired products – as well as probably to enjoy occasional warmth – the Inca permitted them to establish colonies in these places These were homogeneous enclaves under the authority of their highland home officials We may suspect that these Aymara were not true permanent colonists but vacationers frequently changing residence between highland and lowland

Law and Crime

In referring to Inca law – or for that matter to all Peruvian and to all pre Columbian American law – it must be *remembered* that it was exclusively common law uncodified *lex non scripta* in the absence of any system of writing it could not have been otherwise Since there was no private ownership of real estate little personal property and no private business law was practically limited to crime and punishment The authorities remembered the custom and precedent for punishments and the common people also knew the sanctions Though it can hardly be said that the emperor s wish was law at least the laws represented his will and their transgression was construed as disobedience to him rather than as an offence against the state or against any individual Therefore some acts that would be considered by us as misdemeanours or even as merely sins were severely punished Treason and disobedience to the emperor were considered the greatest crimes

All offences against the state treason theft from imperial or church fields or storehouses burning bridges breaking into convents and similar crimes were punishable with death, as was murder Capital punishment however could be decreed only by

The Incas transplanted Indians from one province to another for special reasons some for the good of their vassals and others for their own purposes and to secure their dominions from insurrections In the course of their conquests the Incas found some provinces to be naturally fertile but thinly populated To these *districts they sent Indians who were natives of other provinces* with a similar climate This precaution was taken that no injury might befall the settlers On other occasions when the inhabitants of a locality multiplied rapidly so that their province was not large enough to hold them they removed a certain proportion of the people to some other district They also removed Indians from barren and sterile tracts to such as were fertile and prolific with a view to the benefit both of those that remained and of those that went because being relations they would help each other with their harvests

As has been stated or intimated in some previous pages Inca policy was to leave administrative matters *in statu quo ante* as much as possible and to adapt the new regime to fit pre existing conditions All amenable chiefs were confirmed in their positions made curacas and considered as nobility their sons taken to Cuzco to serve as hostages and to be indoctrinated in Inca ideology eventually to succeed to their fathers positions However the Governor was always an Inca noble The Inca tripartite system of land division and labour service was introduced storehouses built Quechua established as the official language and Sun worship as the official religion though no coercion was practised on the native population to compel them to abandon their old language and religion If the people were in distress as a result of the late war food and other supplies were brought from government storehouses in neighbouring pacified regions

The principal portable idols or wacas of the conquered people were also taken to Cuzco to be held as hostages where they might be worshipped by visiting delegations the sacred objects were generally accompanied to Cuzco by some of their native priests This practice gave the native peoples a feeling of community with Cuzco as their capital instead of merely that of foreign invaders For some reason however Inca costume was enforced on the conquered people though they were allowed to

retain their former head-dress or required to adopt some other distinctive one as an identifying symbol.

Rather similar in their melting-pot result but in a slightly different category from the mitimaes were some colonies of Aymara on the coast and on the warm slopes of the eastern mountains. The Aymara inhabited and inhabit the highest chilliest and most inhospitable parts of the plateau, and to permit them access to tropical or semi-tropical fruits and other desired products as well as probably to enjoy occasional warmth – the Inca permitted them to establish colonies in these places. These were homogeneous enclaves under the authority of their highland home officials. We may suspect that these Aymara were not true permanent colonists but vacationers frequently changing residence between highland and lowland.

Law and Crime

In referring to Inca law – or for that matter to all Peruvian and to all pre-Columbian American law – it must be remembered that it was exclusively common law uncodified, *lex non scripta*; in the absence of any system of writing, it could not have been otherwise. Since there was no private ownership of real estate, little personal property and no private business, law was practically limited to crime and punishment. The authorities remembered the custom and precedent for punishments and the common people also knew the sanctions. Though it can hardly be said that the emperor's wish was law, at least the laws represented his will and their transgression was construed as disobedience to him rather than as an offence against the state or against any individual. Therefore some acts that would be considered by us as misdemeanours or even as merely sins were severely punished. Treason and disobedience to the emperor were considered the greatest crimes.

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ment from which there was no appeal to higher authorities There were no lawyers solicitors or advocates no fees to be paid The only peculiarly judicial officers were the full time governmental inspectors who regularly investigated the affairs of state officials and pressed charges against dishonest ones On the whole crime was rare the static nature of the society did not provoke it and the rigid enforcement of the laws tended to prevent it

The government inspectors were usually of imperial blood and were considered the direct and personal representatives of the emperor taking upon themselves one of his functions Periodically – probably at irregular and unannounced occasions – and incognito they visited every corner of the empire

The greatest crimes such as treason and all crimes committed by the royalty were judged by the emperor in person generally with the advice of his privy council The penalties were severe but the purpose was the prevention of crime rather than its punishment A father was held equally responsible for the crime of a minor child If a robber could prove that want drove him to the crime the official who permitted such an abnormal and illegal situation to come to pass was also severely punished

The guilt of an individual was often determined by divination or ordeal such as torture Judgement was given within a few days five at the most Fines of course were unknown The entire village or ayllu of a great criminal was held guilty with him and in the most heinous crimes the village was destroyed and the entire population put to death

the highest authorities a governor or the emperor himself and a curaca who put any subject to death without higher official sanction was severely punished himself even receiving the death penalty for a second offence Capital punishment was inflicted by several methods generally the culprit s head was bashed in with a club but he might be thrown off a cliff stoned to death or hung up by the feet Probably the choice was so that the punishment might more or less fit the crime Imprisonment was unknown except for one delicate variety reserved for the most egregious traitor he was placed in an underground dungeon filled with snakes and other venomous noxious and dangerous animals His incarceration was necessarily a brief one Lesser punishments were public rebuke removal from office banishment torture flogging and the *hihuaya* which consisted in dropping a heavy stone from a height of about three feet (1 m) on the malefactor s back this was often equivalent to a capital sentence

Following their usual pattern the Inca made openly the distinction between noble and commoner that is often made in practice in modern days It was felt that a reprimand and loss of his emperor s approbation were worse punishment for a noble than physical castigation to a peasant In this they probably were good judges of human nature and anyway it was necessary to uphold the prestige of the aristocracy On the other hand transgressions of *noblesse oblige* were more severely punished than a similar sin by a commoner thus adultery with a noblewoman was a capital offence for both the common or garden variety was punished by torture

Extenuating circumstances were always allowed for Killing in self defence or slitting the throat of a wife caught *in flagrante delicto* was not murder Intentional injuries were more severely punished than accidental ones A lazy or improvident man might be rebuked for theft a covetous one would be banished

Accused persons were held under guard until their trials which were of course not before a jury of their peers but before state officials the regular administrative officers such as the curacas Minor offences were judged by minor officials important ones by higher officers these heard testimony and the defence of the accused called witnesses and pronounced judge

the creation he interfered little in human destinies remaining a bent n divinity in the heavens He was therefore little wor shipped at least by the common people the emperor and the nobles appealed to him more frequently – in time of trouble

The Creator god was apparently a very old and fundamental deity in Peru Means believes that he was the god worshipped at Tiahuanaco possibly under some other non Quechua name Viracocha in many respects resembles the Mexican god Quetzal coatl who was al o a culture hero According to Inca mythology after travelling through the country instructing his people Vira cocha set off across the Pacific from the shores of Ecuador walk ing on the waves Pizarro and his men were therefore identified with the returning god just as was Cortes in Mexico and the white men were – and in some places are to this day – called Viracocha In these days when anthropologists are giving more credence than formerly to the probability of pre Columbian trans Pacific influences and voyages these old American tradi tions of culture heroes might well be accorded new appraisals In later years the term Viracocha seems to have been equivalent to Lord the semantic analogy with both uses of the English term is obvious

The worship of Viracocha was apparently mainly if not ex clusively a function of the upper classes a philosophical rather than an animistic religion Emperor Viracocha ascribed the de feat of the Chanca and the preservation of the Inca hegemony to his namesake god and reanimated and encouraged his worship He built two temples to Viracocha the only two in Peru one in Cuzco and another at Cacha The latter (Plate 16A) judging by the ruins that survive was one of the great triumphs of Peruvian architecture The median wall still standing in good cond tion was over three hundred feet (90 m) long and over fifty feet (15 m.) high The lower eight feet are of excellent masonry supporting over forty feet of adobe wall The walls are five to six feet thick and the bu lding consisted of three storeys More important in mundane affairs than Viracocha were the sky deities – the gods and goddesses of the sun moon stars and thunder and the terraqueous goddesses those of the earth and the sea these were all servants of the Creator The cult of the

Chapter 13

RELIGION

PROBABLY the ancient religions of all parts of Andean Peru conformed to one general pattern but differed greatly in details and in the names of the deities The following digest like those of our other sections on the life of old Peru refers particularly to the Inca or Quechua of the Cuzco district the only region on which the data are extensive

In empire times the religion was state established and supported this seems to have been the only instance in aboriginal America of an established church But in essence it was doubtless the age old beliefs of the Cuzco region Quechua There was a principal god other gods and goddesses of greater or lesser importance local animistic spirits or objects and unembodied and disembodied spirits In its later years under the empire the religion had evolved an organization in which rich ritual and ceremonialism were important Its chief purposes were the increase or maintenance of the food supply and the cure of the sick spirituality mysticism and non pragmatic ethics had little place in it However concepts of sin confession penance and purification were important Divination was one of the principal dutie of the priesthood and sacrifice to the gods was a vital element of almost every rite

The supreme deity was the Creator He is generally known as Viracocha but this name was merely one of his many titles He is said to have had no true name but like the great god of some other peoples his name may have been too sacred to be spoken and thus was unknown to the chroniclers His form was that of man and he was thus represented in images in temples He was eternal and created everything including the other deities he was the supernatural analogue of the Inca emperor Garcilaso was probably in error when he identified Viracocha with Pachacamac, a deity of the inhabitants of the central coast where he had a shrine famous over all Peru dedicated to him Viracocha was also a culture hero who taught his people how to live After

therewith The bel. fs regarding eclipses of the moon paralleled others current in many places throughout the world a serpent or puma was trying to eat the Moon Goddess and was scared away by threats and din

Inca star lore was extensive and although there seems to have been no true zodiac many of the stars and constellations were given names and apparently were considered as deities that watched over terrestrial beings and certain activities The Morning Star Venus was an important figure in mythology The Pleiades took care of seeds and another constellation the herds the latter was seen as a speckled llama Other kinds of wild animals each had its star protector

The Earth and the Sea Goddesses Pacamama and Mama cocha were of importance in the highlands and on the coast respectively Their functions dealt with agriculture and fishing

The word waca (*huaca guaca*) was and is of great importance in Peru It originally meant sacred shrine and is so used by the Indians to-day Among the Spanish and the mestizos however it applies to one of the great coastal pyramids of adobe or to any archaeological Indian grave and the native scoundrel who makes a business of excavating aboriginal graves and selling their contents – the main source of most Peruvian collections in museums – is to day known as a *huaquero* the masculine form *huaco* is now applied to a pottery vessel from such a grave

In ancient as in modern Peru there were thousands of wacas ranging from great temples to hills springs and piles of stones Each was believed to be – or to harbour – a spirit which might be malevolent and which should be gratified or placated by some gift or sacrifice whenever it was neared Each native knew only those in his vicinity One of the chroniclers lists three hundred and fifty within twenty miles of Cuzco Springs and stones were the most numerous wacas but hills caves roots quarries forts bridges palaces prisons houses meeting places battlefields stone field boundary markers and field guardians calendar markers and other similar objects are included in the category as well as temples, tombs and historical or mythological sites

Mountains and hills were especially likely to be considered sacred and generally speaking the higher they were the more

Earth Mother was probably the oldest most fundamental and most popular of all she was the one most supplicated by the common farmer

The Inca were sun worshippers the Sun Inti was the great deity and the progenitor of the royal dynasty Although the priests and the Chosen Women served all the gods the Sun was so pre eminent that the chroniclers always referred to the women as the Virgins of the Sun and to the shrines as Sun Temples The sun and the rain together controlling the crops tend to be the primary interest of almost every agricultural people Though apparently generally conceived of as a man the Sun was generally represented – as often to day – by a round human face with surrounding rays Naturally the disk was almost always of gold and the one in the Coricancha the great Temple of the Sun in Cuzco was immense One of the best remembered tales of the Spanish Conquest is that of the Spanish soldier Sierra de Leguízano who having received the great disk as his share of the booty gambled it away that very night popular tradition has i that this was the origin of the Spanish saying jugar el sol antes que amanezca to gamble away the sun before it rises Sad to say iconoclastic historical research indicates that the sun disk had then been removed and Sierra de Leguízano s gold piece *though a great prize was a more utilitarian object* Doubtless also Hispanic folklorists have found another origin for the proverb

Naturally the Thunder or Weather God was the divinity of next importance he was importuned to send the rain The name Illapa connotes both thunder and lightning He was envisaged as a man dressed in shining apparel and carrying a sling and a war club According to one myth his sister kept the rain in a jug which Illapa broke with his sling shot when he yielded to earth lings pleas for rain As he threw the crack of the sling was the thunderclap the stone the thunderbolt and the lightning was the refulgence of his glistening garments The rain water came from the heavenly river the Milky Way Illapa was identified with a constellation

The Moon Mamaquilla was a goddess and wife of the Sun She was little worshipped but her functions were chiefly with reference to the calendar and the festivals and work connected

kept in niches and were inherited Every person also had an individual fetish the abode of his guardian spirit who was considered his twin brother or *huauqui* Bezoars were common household fetiches those most prized came from the vicuna deer guanaco and llama in this order

This animistic belief in spirits of inanimate objects is widespread and wellnigh universal among primitive peoples and must have been very ancient far pre empire and fundamental in the Andean area

There were both unembodied and disembodied spirits in addition to the stationary spirits of the huacas The minor spirits were malevolent and greatly feared. As is the situation with many societies of more logical persons there seems to have been a confusion of belief regarding the disembodied spirits the dead without any realization of incompatibility The spirits of the dead went to heaven or hell but nevertheless they – or some of them – might also hang around their old homes to annoy – though with a helpful purpose – the living The dead liked to have their mummies brought out to enjoy fiestas and they expected to be given food and chicha beer now and then The cult of the dead was very important

Heaven was with the Sun where the good enjoyed life much as on earth with a plethora of food and drink while evil doers went to a subterranean hell where it was always cold and there were only stones to eat The nobility however were *ipso facto* guiltless all went direct to heaven

Properly speaking there were no churches in ancient Peru for almost all ceremonies were performed out of doors and only the priests and high officials entered the temples The great national ceremonies were enacted in one of the squares in Cuzco to which the sacred objects were brought from the temples The most important of these plazas was of course the Great Square adjacent to the imposing Temple of the Sun. This, the most sacred shrine in Peru was a magnificent building or group of buildings around a courtyard and was lavishly furnished Known as the Coricancha (Plate 13) parts of it are still preserved but so much altered by rebuilding in the upper parts that its former shape and nature are difficult to visualize According

important all snow capped peaks were reverenced or worshipped and several hills around Cuzco were especially sacred were supposed to represent deceased emperors or other persons and played important parts in certain ceremonies

Especially sacred was a stone on Huanacauri hill near Cuzco which was supposed to represent one of the brothers of the great Emperor Manco Capac and which therefore was a protector of the dynasty The city of Cuzco itself was probably considered a waca

The wacas of the Cuzco region were thought of as lying on lines radiating from the Temple of the Sun Three of the quarters each had nine such radiating lines the fourth Contisuyu had fifteen In the first three the nine lines were arranged in three groups of three each and there were from four to fifteen wacas on each line Naturally the lines were not perfectly straight.

Only two ceremonial directions east and west were recognized by the Inca these were of course important because of the rising and setting of the sun The wacas in the neighbourhood of Cuzco were classed according to their location in one of the four quarters into which the region was divided These in turn corresponded to the four quarters of the empire the two north quarters being considered as Upper Cuzco the southern pair as Lower Cuzco They were under the care of the royal ayllus living in those quarters

Another type of waca called *apachita* was a sort of cairn at a dangerous or important place on a road where the traveller paused to pray for safety and strength here he would add a stone to the pile or leave something of trivial value such as a piece of worn-out clothing a quid of coca or even a handful of straw This custom is still practised

Almost anything strange or unusual was considered sacred and a waca twins persons with supernumerary digits plants of peculiar forms Corpses of course Then there were portable wacas amulets and talismans these might be pseudomorphs – natural stones in the shape of some object crystals bezoars or any article that seemed queer

Household fetishes the Andean analogues of the Roman Lares and Penates were the guardians of the family they were

paraphernalia and participating in the regular ceremonies were to hear confessions make divinations interpret oracles make sacrifices pray for suppliants and cure the ill In major temples where there was a large group of priests probably all specialized in one or another of these functions

Connected with each Sun temple was a building that housed the female associates These were not inappropriately considered by the Spanish as nuns their quarters as a convent it had many of the functions of one The nature of these women and their method of selection have been mentioned before (page 181) They were of two main classes the Chosen Women *acllacuna* and the so-called Virgins of the Sun *mamacuna* The latter formed a permanent staff and had taken vows of perpetual chastity the Chosen Women were more or less transient and were eligible to be given as secondary wives to nobles at the emperor s pleasure – or taken for himself

No man was supposed to enter a convent, though some of the chroniclers speak of eunuchs who acted as servants and door keepers and also as confessors to the Virgins this is not unlikely These men were called monks by the chroniclers but it is not clear whether all monks were eunuchs and vice versa or whether some non eunuch monks had other duties

The chroniclers differ greatly in their explanations of the roles of these women and some certainly confused the two classes but the true situation was probably that given above Naturally some historians state that the Virgins of the Sun were no more than the emperor s private sera lio and many recent writers have as sumed the same The emperor however deified by his people was human – and above the law Father Cobo[1] says that every now and then the monk (eunuch?) in charge of the convent gate would approach the emperor in the great square where he might be making a sacrifice to the Sun would gently tug at the imperial mantle and whisper in his ear Inca on such and such a night you stole into the Sun s mansion and lay with one of his wives Whereat the emperor also *sotto voce* would answer I sinned and the guard would know that he was thereby absolved from neglect of duty Any transgressor of lower rank

1 Cobo 1890–5 Book 13 chapt 37

to accounts of the time of the Conquest it consisted mainly of one great room The roof was gabled and covered with thatch There was only one exterior doorway However, it served mainly as a repository for sacred objects an altar idols of the principal deities and the bodies of deceased emperors Many great religious objects of solid gold hung on the walls Adjacent to this great room were smaller chapels and shrines and even some small independent buildings for priestly residences The circumference of the ensemble was about twelve hundred feet.

Similar smaller Sun temples were located in all the main centres of population especially in the provincial capitals The more important shrines or wacas also had houses or temples for the attendant priests

The priesthood was graded into ranks very much like the ecular population At the apex was the High Priest or Pontifex Maximus the *Villac Umu* resident in Cuzco He was always a brother uncle or other close relative of the emperor and one of the officials of highest rank in the state He held office for life and presided over a council of nine other priests of high rank each in charge of a large area He led an exemplary life hedged about by restrictions and taboos

The other priests of higher rank were also of royal blood all from the Tarpuntay ayllu and were elected by a council of other priests apparently for a definite term of office The clergy of the lowest ranks were commoners and not state supported These lowest offices were hereditary many of them presumably were local patriarchs too old for active agricultural labour who tended a waca

The larger temples sheltered a considerable body of clergy diviners sacrificers and servants in addition to Chosen Women , and monks while smaller shrines might have had only one attendant and probably the smallest outdoor wacas had none The principal priest at the large provincial Sun temples belonged to the imperial caste Like the secular government a corps of church inspectors visited the religious institutions frequently and reported instances of malfeasance to the higher authorities

The duties of the priests in addition to caring for the sacred

not in vain in orderly succession
do they march to their destined place to their goal
They arrive wherever Thy royal staff Thou bearest
Oh! Harken to me listen to me
let it not befall that I grow weary
and die

Some prayers were recited others given silently a suppliant might ask his relatives and friends to pray for him or might pay a priest to do so

Fasting was an accompaniment of many religious observances As amon ourselves it might be slight or strict ranging from abstinence from salt and pepper to the prohibition of meat chicha beer and sex relations

Confession of sin also played a prominent role in Inca religion since sin made the gods angry and impelled them to punish the sinner by bad luck in this life and condemnation to the under world in the next It must be remembered that concepts and de finitions of sin differ greatly according to the morals of various peoples and Inca morals by no means paralleled ours Offences against neighbours such as murder and theft were naturally condemned but disobedience to the emperor s wishes and ne glect of festivals and worship were also sinful All misfortune even such as congenital natal malformation was deemed to be a punishment for sin The sinner was disqualified from taking part in religious observances until he had confessed and purged him self It was not necessary to confess sinful thoughts however An illness of the divine emperor presented quite a philosophical and theological problem he was sickened by the sins of his sub-jects who cured him by their confessions and purification

Confessions were made to the priests generally the minor priests of either sex in charge of local wacas The confessor heard all the members of his ayllu the confession was generally heard by the side of a stream More serious sins had to be taken to priests of higher rank, the confessions were in secret and were not to be divulged The emperor the royal family and the High Priest confessed in secret to the Sun whose intercession they asked with Viracocha the Creator

Incomplete confession of sin was considered a great sin in

however was paid the proverbial wages of sin he was strangled and his paramour buried alive

In the convents the women cared for the necessities of the priests prepared their food and wove their garments Those in the great convent connected with the Sun Temple in Cuzco wove the imperial garments probably the finest cloths made in Peru which is to say about the finest in the world it is reported that some of these textiles required a year of work to manufacture One of the chroniclers states that the inmates of the great convent attached to the Cuzco Coricancha numbered three thousand

As among ourselves Inca prayers were of two kinds personal and private or congregational and ritualistic. The private prayers were naturally appeals for personal welfare such as health or good crops and might be addressed to a spring for instance while the congregational prayers were traditional fixed and on a rather high aesthetic plane Several of these prayers were preserved and recorded by some of the chroniclers One of the most famous of these is [1]

Viracocha Lord of the Universe!
Whether male or female
at any rate commander of heat and reproduction
being one who even with His spittle can work sorcery
Where art Thou?
Would that Thou wert not hidden from this son of Thine!
He may be above He may be below
or perchance abroad in space
Where is His mighty judgement seat?
Hear me!
He may be spread abroad among the upper waters
or among the lower waters and their sands
He may be dwelling
Creator of the world Creator of man
great among my ancestors
before Thee my eyes fail me
though I long to see Thee
for seeing Thee knowing Thee
learning from Thee understanding Thee
I shall be seen by Thee and Thou wilt know me
The Sun – the Moon the Day – the Night Summer – Winter

1 Means 1931 pp 437 438

trast to the hecatombs that Cortés encountered in Mexico To the gods it was the most precious and most welcome offering given on only the most sacred or most ominous occasions such as the installation of an emperor his illness or departure for war or military defeat famine or plague Human beings were offered to only the most important deities or shrines by priests at great communal ceremonies

Boys and girls about ten years old were the principals – the word victim is not quite appropriate – in these sacrifices The girls were selected from the Chosen Women being educated in the convents (page 209) some at least of the boys were offered by their parents who were in great need. The children had to be physically perfect and fine examples of youth They were feasted and sometimes made drunk before the sacrifice so that they might appear before the deity contented and happy Less often adults were immolated These were from a newly conquered province brought to Cuzco to be sacrificed to the Sun in celebration of the victory Like the children they were outstanding physical examples

After marching several times around the image or waca the victims were strangled and their throats slit or as in Mexico the heart cut out The priest then marked or smeared the venerated object with some of the blood and sometimes a libation of blood was poured on the ground

Sometimes when a very ill man had been told by a diviner that he would certainly die he would sacrifice one of his sons to the Sun or to Viracocha in the hope that thus his own life would be spared

Most of the sacrifices were made to wacas and at set ceremonial occasions in connexion with the seasonal calendar For these the sacrificed objects – mainly llamas – were taken from the flocks and fields devoted to religion some of which were allocated to every waca and from which also the attendant priests derived their support Part of the sacrifice of an individual was also devoted to the upkeep of the personnel of the waca

State sacrifices to Viracocha were made in the name of the wacas of the country rather than in that of the emperor

Cuzco was of course the great centre for sacrifices as for all

itself and the priest confessor took measures including interrogation physical coercion, and divination to make sure that the confession was full When thus assured he fixed a penance usually a period of fasting and praying or both Often it is said the expiation was in opposite ratio to the priest s fee After such penance the sinner washed in a stream so that the sin might be borne away Or he might spit into a handful of straw and throw that into the river

The Spanish clergy of colonial days were naturally astounded at the many close analogies to their religion which resemblance they ascribed to the machinations of the Great Deceptor Satan

As with most religions sacrifice was also a most important feature among the Inca the concept undoubtedly being that of *quid pro quo* a gift to the god or gods in return for favours bestowed or solicited Sacrifices had a great range from a handful of straw left at a wayside *apachita* to human sacrifices by the High Priest in a great public ceremony in Cuzco

Food and drink the latter in the form of chicha beer were regular offerings to the wacas and to preserved bodies especially those of the emperors The food was burned the chicha libation poured on the ground Coca was of course a frequent offering this was burned either as dried leaves or as quid after chewing Other frequent sacrificial materials were corn flour wool and llama fat. Sea shells were offered to springs generally after sowing time If a worshipper had nothing else he offered a few eyelashes or eyebrow hairs Wealthier men sacrificed fine clothing which was burned and little gold or silver figurines or even lumps of these metals these were buried or hung in the temples

However domestic animals llamas and guinea pigs were the most common sacrifices wild animals were not ordinarily used. Llamas being valuable animals were rarely sacrificed by individuals – and then only by wealthy ones but were generally from the governmental herds offered in public ceremonies to the image of one of the deities The priest led the llama around the figure and made it face it recited the proper prayer and cut the animal s throat White llamas and alpacas were sacrificed to the Sun brown llamas to Viracocha and mottled ones to Thunder

Human sacrifice was rare in Peru at least in Inca days in con

trast to the hecatombs that Cortés encountered in Mexico To the gods it was the most precious and most welcome offering given on only the most sacred or most ominous occasions such as the installation of an emperor his illness or departure for war or military defeat famine or plague Human beings were offered to only the most important deities or shrines by priests at great communal ceremonies

Boys and girls about ten years old were the principals – the word victim is not quite appropriate – in these sacrifices The girls were selected from the Chosen Women being educated in the convents (page 209) some at least of the boys were offered by their parents who were in great need The children had to be physically perfect and fine examples of youth They were feasted and sometimes made drunk before the sacrifice so that they might appear before the deity contented and happy Less often adults were immolated These were from a newly conquered province brought to Cuzco to be sacrificed to the Sun in celebration of the victory Like the children they were outstanding physical examples

After marching several times around the image or waca the victims were strangled and their throats slit or as in Mexico the heart cut out. The priest then marked or smeared the venerated object with some of the blood and sometimes a libation of blood was poured on the ground

Sometimes when a very ill man had been told by a diviner that he would certainly die he would sacrifice one of his sons to the Sun, or to Viracocha in the hope that thus his own life would be spared

Most of the sacrifices were made to wacas and at set ceremonial occasions in connexion with the seasonal calendar For these the sacrificed objects – mainly llamas – were taken from the flocks and fields devoted to religion some of which were allocated to every waca and from which also the attendant priests derived their support Part of the sacrifice of an individual was also devoted to the upkeep of the personnel of the waca

State sacrifices to Viracocha were made in the name of the wacas of the country rather than in that of the emperor

Cuzco was of course the great centre for sacrifices as for all

Inca religious ceremonies Every morning as it rose the Sun was greeted with a sacrifice of some food that had been specially prepared the rest of which served for the priests breakfast A fire of specially carved wood had been laid this was kindled at sunrise and the food thrown in while a priest recited 'Eat this Lord Sun, and acknowledge thy children Later in the day a dark red llama was sacrificed to the Sun together with some coca The fragrant carved wood for the fire was supplied by the Chicha people Another fire of this same material was kept constantly burning in a stone brazier near the Temple of the Sun and from this all sacrificial fires had to be kindled.

On the first day of each month a preparatory ceremony was held in the presence of the emperor and his court assembled in the Great Square. One hundred selected llamas were brought in and divided among some thirty attendants three or four to each Every attendant had one day of the month allotted to him and on this day he brought his animals and sacrificed them Before the division all the llamas had been ceremonially made to circle the images of the gods four times and had been dedicated by the High Priest to Viracocha in the name of the Sun. These animals were cut into quarters and completely burned in a large fire made of the same carved scented wood into which coca white corn and ground chilli peppers were also thrown The bones that remained were ground to a fine powder and the priests blew a little of this into the air while they recited a short ritual The remaining powder was stored in a neighbouring building called the Puma s tail

Calendrical Ceremonies

The major Inca public religious ceremonies were performed in the Great Square in Cuzco and the majority of these were recurrent annual church holidays (holy-days) Most of them also were associated with agricultural events such as with planting time and harvest The cult objects such as images of the gods and bodies of deceased emperors were brought out and venerated by the assembled populace The current emperor and his court always attended The ceremonies accompanied by sacrifices

dancing singing recitations and the consumption of quantities of chicha beer were elaborate and impressive The effect must have been in general very similar to a church fiesta in Peru or other parts of Latin America to day and the transition from pagan to Christian must have been effected with little change in attitude on the part of the people

In each month at least one important annual ceremony was held generally associated with the current agricultural activity The chroniclers of the time of the Conquest recorded these in considerable detail In describing these monthly ceremonies the Spanish chroniclers correlate the Inca lunar months with ours giving one of our names to each Such correlation is only approximate and applicable for only a short time (see pages 224-5) nevertheless it must be adopted for descriptive purposes

December was a most important month for then the puberty ceremonies for boys of noble rank were held these filled not only the entire month but a part of the next one Athletic tests and competitions took place as well as a sham battle Many of the other monthly ceremonies occupied many days

Sacrifices of llamas by various methods and with details appropriate to the occasion were an important part of almost every ceremony and on rare occasions children were sacrificed A sacred white – probably albino – llama, which was carefully tended until he died a natural death played an important role in some rites Fasting and feasting the drinking of quantities of chicha beer and community dancing accompanied most of the more joyful ceremonies and offerings and auguries played a large part in many Some were followed by ceremonial baths to cleanse the partakers from evil and illness The ceremony for the month of June was second only to that of December and was centred about the adoration of the Sun An important feature of the solemn occasion was the making of new fire – also a part of Aztec ceremonialism.

Divination and Omens

Unlike the Mexicans the Inca apparently did not recognize good and bad lucky and unlucky days or at any rate these were not of

such transcendent importance Their priests instead of determining these days made divinations to predict the future – as of course did the Mesoamericans also – and the success or misfortune of any project The results of these divinations and consultations of oracles were of course supposed to represent the will of the gods whose wishes should be consulted before any undertaking Divination was practised to determine any doubtful question future or past also unsolicited omens were constantly looked for

For the most serious problems such as identifying traitors the solemn divination by fire was practised The emperor himself often partook in this after a fast of several days and it was generally accompanied by the sacrifice of most valuable objects sometimes including children By means of this fire communication with spirits was established The chief practitioners known as *yacarca* who came from the town of Huaro near Cuzco were most respected and feared

This method of fire divination required considerable preparation Fire was built in two braziers placed end to end wood soaked in fat being used Food and drink in dishes were placed around the fire which was intensified by blowing through a tube with copper and silver ends The Chief Priest taking a quid of coca in his mouth begged the spirits to come to the banquet in the presence of Fire Sun and Earth Either the spirits of living or dead persons might be thus invoked with chanting and weeping The flames from the holes in the braziers were considered the voices of the spirits and the diviners heard and interpreted them answering questions put to them Sometimes a different spirit appeared in each brazier

Divination by means of a llama s viscera was a more common practice and has been mentioned before With its head held to the east by four priests another cut open the left side and extracted the heart lungs and gullet entire connected and uncut. If the lungs were still breathing when they were drawn out it was considered a most propitious omen If this and other signs failed a second and even a third trial was given and if all proved calamitous there was great foreboding of ill luck Another method was to inflate the lungs by blowing and to interpret the

augury by the vein pattern Important yes-or no questions were thus decided for ones of less importance a guinea pig or even a bird might be used

There were also many simpler and more easily practised methods of divination. One like our she loves me not daisy petal method involved the counting of objects for odd or even total. Pebbles beans corn kernels and pellets of llama dung were among the most usual materials employed the pebbles were generally wacas to which a magical origin had been ascribed. Llama fat and coca leaves were burned and the fire watched. Or the diviner spat into his hand and watched the spittle run down his two fingers if the flow was equal the augury was good, otherwise it was bad

The movements of confined animals particularly snakes and spiders were watched as an augury spider divination was especially practised in the Chinchasuyu quarter of central and north rn Peru The spider was kept in a jar and if on first observation, any of its legs was bent the prognosis was bad.

While almost every waca would serve as an oracle to be consulted by divinatory practices there were several oracles that were peculiarly such and that were consulted on important questions by many pilgrims from all over the empire Two of them gave th i names to the rivers on which they were situated Apo rimac on the Apurimac River near Cuzco and Rimac (meaning oracle') on the Rimac River near Lima Probably most important, however was the great shrine of Pachacamac on the coast south of Lima Huari in the Jauja Valley was another The Apurimac oracle was a tree trunk in a house it was dressed in female apparel with breasts of gold and a sash A row of smaller figures was placed to either side This oracle was in the charge of a priestess who may have hidden in or behind the trunk for a Spanish prisoner heard it reply to a question put to it by Manco Inca in 1534 The oracles seen by the Spanish were generally thickly smeared with sacrificial blood

The soothsayers were supposed to talk directly with the spirits they wore special garb and hair dress and spoke with the spirits in the dark in words that could be heard but not understood Some of them drank chicha be r mixed with the juice of

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on the coast appear to stress the importance of the number seven

A little chicha beer was always sprinkled towards the sun and also to the ground and to the fire whenever natives were indulging in that drink.

Travellers always took a drink of the water when passing a spring or crossing a stream meanwhile breathing a prayer for a safe passage

Disease and Healing, Sorcery

Among many if not most pre scientific peoples as has been remarked before no misfortune accident or illness just happens it is always a result. Illness disease and death in particular are always caused by the ill will of someone by sorcery or otherwise someone wanted it to happen The ancient Peruvians had progressed somewhat beyond this stage and the magic of hired sorcerers was only one of the causes of illness A more important and more frequent cause was the supernatural ill will of deities angered by *sin or by neglect of worship or accidental contact* with inherently malevolent spirits found especially in winds and springs Illness might also be caused by winds and by loss of soul which could be frightened out of the body The Inca still retained the belief wellnigh universal in aboriginal America that the proximate cause of illness was generally the presence in the body of some foreign object, placed there by sorcery

Just as personal illness was considered punishment for individual sin so public calamity was thought to be the punishment for mass or public sin.

All illness thus having a supernatural cause it had to be treated by magical and religious means Even when herbs and other medicines of genuine therapeutic value were employed their effect was presumed to be magical, and there was no appreciation of their chemical nature and reactions As outlined in preceding pages sacrifice prayer penance, fasting confession bathing and other similar rites were as important healing measures as pharmacy and therapeutics

The relationship between publicly supported and recognized priests of the state religion, and curers medicine men and

were cured by appeasing the spirit mainly by sacrifices at the spot.

If the diagnosis indicated that a man was bewitched, that his illness was caused by sorcery and black magic the cure of course had to be of the same nature and a sorcerer was called in to counteract the evil His treatment was akin to that used to cause the illness

There was probably no class of professional midwives – women who did nothing or little else though there is some disagreement on this point However in every neighbourhood there were doubtless women who made this an avocation. They qualified through having a vision like the male doctor by bear ing twins or by performing a long series of rites and ceremonies they could produce abortions However many women delivered unassisted

The pharmacopoeia of ancient Peru was most extensive and probably every plant was thou ht to have some magical property for good or evil Many of course have actual therapeutic value in the complaints for which they were used and some have been adopted by modern medicine many others could have had no value

Strangely and contrary to general belief cinchona from which quinine is derived Peru s most valuable gift to the medical world apparently was not used to any extent if at all in ancient Peru The *quina-quina* from which the name was derived was a different tree Peruvian balm This queer fact is understandable when it is realized that malaria against which cinchona is a specific, was apparently unknown in pre conquest America and was one of the plagues introduced from Europe

Animal products and mineral substances were also used as *materia med ca* fresh meat ointments from animal fats blood urine bezoar stones and ointments containing mercury sul phur or arsenic. Blood letting purges emetics and enemas baths and control of diet were also prescribed Tobacco in the form of snuff was used for medical purposes Embalming was rudimentary and consisted mainly in the removal of the viscera after which the body was allowed to dry in an arid place

Even to-day Bolivian native doctors known as *collahuaya*

possibly by hypnotism The operating room was first cleaned and purified by the sprinkling and burning of maize corn flour first black, and finally white

Malpractitioners who dealt in sorcery and black magic existed in Peru as almost everywhere and were of course beyond the law When convicted of murder not only the sorcerer but all his family were put to death. They were naturally feared and hated but doubtless the suspects far outnumbered the few practitioners Poison and magic were the two methods by which they worked Poisoning needs no explanation the practice of magic follows the same general pattern as throu hout the world that of sym pathy and contagion

A figure might be made to represent the victim dressed in bits of his cast-off clothing or containing something belonging to him especially some of his exuviae such as nail parings or hair the ima e was then maltreated and possibly finally burned the suffer ing being similarly felt by the human prototype Or the sorcerer would take a toad skewer the eyes and mouth shut with thorns tie up the feet, and bury it where the victim would come into con tact with it A noose might be made of black and white wool spun in the opposite to-ordinary direction and placed where the victim would catch his foot in it By burning fat, thorns ears of maize and some of the enemy s hair in his corn field the harvest could be ruined Other tools of black magic were the ubiquitous witches -cauldron ingredients, hairy spid rs animal heads dried animals roots herbs ointments shells figurines and amulets

Of course sorcerers could also supply love philtres and charms – all at the proper price The ingredients, except for feathers differed little from the above list The charm was to be hidden in the bed or the clothes of the uncomplaisant loved one

Some more modern writers also have not realized the difficulty and have made inconsistent and irreconcilable statements Thus Means makes each month run from about the ~ nd to the 22nd (obviously based on the solstices and equinoxes) but has the full moon occur regularly on the 15th of January [1] Others have presumed that there were twelve thirty day months and that some months had – as with us – an extra day or that five days were added at the end of the year as with the Mexican Maya calendar This would, of course have been entirely incompatible with a sequence of lunar periods as divisions of the solar year In practice the lunar months and the solar year were probably not correlated exactly the high priest and the emperor doubtless knew the discrepancy pretty accurately and when something had to be done about it they issued an order

The mo..ths probably began at conjunction or more likely at visible new moon It is not fully agreed which was the first month of the Inca year it was either the one containing the Jun solstice or the December one The best opinion favours the latter since it marked the beginning of the welcome rainy season

According to one tradition the ancient people originally timed their planting season by the blooming of a certain variety of cactus – a natural way for primitive peoples Then the Emperor Viracocha established the twelve month (lunation) annual cal ndar Findin in a very few years that th months and the seasons and fes..vals were all out of their proper relation the Emperor Pachacuti had some towers built on the skyline by which the progress of the seasons could be accurately observed and allowed for It is difficult to believe, however that the discrepancy between the twelve lunar periods and the solar year was not known to all from time immemorial

It is certain that four small masonry towers were built in rows on the skylines east and west of Cuzco and that from a seat in the centre of the Great Square of that city the rising of the sun could be observed with relation to thes towers While a few of the chroniclers state that the solstices and even the equinoxes were thus observed the evidence is against this and apparently

[1] Means 1931 p 382

poses. All known quipus are different and vary greatly in size and complexity relatively few of those extant are complete a necessity for the correct interpretation of any mathematical record

The main cord which was held in a horizontal position is generally of larger size from a few inches or centimetres to over a yard or metre in length. To this are attached from one to over one hundred pendent strings of various colours twists and other modifications They may be fastened to the main cord in groups and subsidiary strings may be attached to them Knots of various types and positions were tied in these pendent cords The knots certainly have numerical values the colours and other qualities of the strings probably signify the nature of the objects thus counted Several of the chroniclers give interpretations for some of the colours but the disagreement is so great that no deductions can be drawn

Studies of quipus by several specialists[1] in this field have demonstrated clearly that the numerical records are given in a decimal arithmetical system very much like our own with place value This was to be expected since the Quechua numeral system was and is decimal and the social system was organized on a decimal basis A simple knot represents one digits from two to nine are denoted by longer knots in which the cord was wound or looped a given number of times before it was pulled tight. The concept of zero was understood but required no symbol the absence of any knot in the expected position denoted zero Place value was indicated by distance from the main cord the unit digits were at the farther or lower end of the string the higher multiples – tens hundreds and thousands – closer to the main cord In the known extant quipus calculations in thousands are rare and apparently only one instance of ten thousand is known Generally the long knots of many loops were employed only for the unit digits multiples of the higher orders were represented by the proper number of single knots close together

The quipu was a recording and mnemonic, not a calculating device Its principal purpose was doubtless that of statistical record this is obvious from the statements of the chroniclers who saw them in use Probably the majority were censuses of the

1 Lock 1912 19 3 1938 N denskiöld 1925 1925b

the sun positions thus observed merely indicated the proper times for planting

Record keeping the Quipu

In spite of the Peruvians high accomplishments in almost every phase of material culture they *never developed any system of* writing – pictographic ideographic hieroglyphic or alphabetic The statement of one chronicler Montesinos [1] that a system of writing on leaves had once been in vogue among the Inca but had been forbidden and forgotten is given no credence by modern scholars However at least one possibly two mnemonic devices were in use

As before noted (page 73) many Moche pottery vessels picture runners carrying bags together with kidney shaped objects *generally identified as beans that are painted with lines dots* and similar devices Other scenes depict persons apparently examining these objects Larco Hoyle[2] claims that these are ideographic symbols denoting standardized concepts he also believes that they show close analogies with Maya glyphs The evidence is purely archaeological without historical verification and conservative Peruvianists while intrigued at the interesting suggestion are not yet convinced of its proof

The Inca had a highly developed mnemonic device known by *the native name of quipu Probably in simple form it had a long* and widespread history in this region but like many other devices had been perfected by the Inca for their special needs All the extant examples of the quipu are from the dry coastal graves but most if not all are of the Inca period (Plate 54B) As it was in constant use among the Inca many of the chroniclers have left us descriptions and explanations of it

The quipu consists basically of a series of strings in which knots are tied The great variation possible in the colour and posi*tion of the strings* and the nature number and position of the knots permits its use for numerical records and mnemonic pur

1 Montesinos 1920 pp 33 6 64 Bingham 19 2 pp 309 10 id 1930 pp 2 6-7
2 Larco Hoyle 1942 1943

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1 Locke 1912 19 3 938 Nordenskiöld 1925a 1925b





F gur 6 Qu pucamayoc with q ip and nt ng apparatus

have been made upon this[1] The nature of the ancient music is *deduced from* the musical instruments that have been preserved These are of two kinds wind and percussion for stringed instruments were practically unknown everywhere in America Among the monotonic instruments were drums rattles whistles bells and trumpets Flutes with finger holes produced several tones but of especial interest and importance is the syrinx or pan pipe closely resembling those of ancient China (Plate 461) Musical instruments were made of wood reeds pottery bone shell or metal

The art of the Inca period was that of a pragmatic people and the last stage of a long history it was technically excellent, under perfect control but uninspired aesthetically the poorest of the several major art traditions developed in Peru

Stone sculpture was entirely missing architectural decoration extremely rare so that art was expressed almost exclusively in the form and embellishment of small manufactured objects mainly in pottery weaving and metal work with minor attention to feather mosaics, woodcarving and work in bone, shell gourds and other such materials

Pottery forms were limited and of simple silhouettes with little relief ornamentation Colours were few and sombre, the designs almost exclusively geometric generally repetitions of small simple figures (Plate 35) But in the decades just preceding the Spanish Conquest, some realistic painting appeared in the form of small animals bird and insects There was no realistic modelling Most of the ceramic forms especially goblets plates and a pointed base liquid container now called an aryballus (Plate 34) were characteristic of the period

Much the same can be said of the textiles which are largely geometric in ornamentation with over all designs and many small panels Very characteristic of the period are the wooden goblets painted in thick mastic, and called *q ero* these show scenes of human activity (Plates 39 40) Many of them date from the Colonial period. The small figures in stone and metal are natural but lifeless and generally standardized to a few characteristic forms such as llamas and plain human figures

1 Harcourt and H[illegible]

other beings of this same human shape he produced light by causing the sun and the moon to rise from Titicaca Island At first the moon was the brighter but the envious sun threw ashes in the moon s face thus reducing its radiance Viracocha then at Tiahuanaco made clay figures of all the animals and men of different nations and decorated the latter with their assigned and traditional costumes Putting life into them he instructed them in their various and characteristic languages customs and even their ceremonies and songs and sent them underground to emerge in the districts that they were to occupy

Viracocha himself with his two assistants journeyed north to observe the results of his orders and the extent of their obedience he travelled up the cordillera one assistant went along the coast and the other up the edge of the eastern forests Since he travelled in the disguise of an old man few of the people recog nized him, and in some places greeted him with stones an almost universal method of treating foreigners – and therefore *ipso facto* enemies – in pre internationalistic days At Cacha in Canas provi ce he was so angered at his reception that he caused a rocky hill to ignite which began to burn up the country Terrified the people beseeched his pardon and aid whereat he extinguished the fires with a blow of his staff On the burned hill a volcanic cone the Canas erected a shrine and the Inca later built a great temple

The Creator then proceeded to Urcos near Cuzco where he commanded the future population to emerge from a mountain on which a shrine dedicated to him was later made He visited Cuzco and then continued north to Ecuador where in the coastal province of Manta he took leave of his people and walk in on the waves disappeared across the ocean

A NOTE ON THE NAME INCA

The best terminology to employ for the people of Peru in the imperial period for their emperor and their language presents a difficult problem and a point on which there has been little agreement and much cause for confusion

PART FOUR

ARTS AND CRAFTS



THE ancient Peruvians erected no Parthenons or Colosseums they carved no Venus di Milo they painted no masterpiece Their architecture was characterized by massiveness rather than by beauty remarkable for its stupendous masonry rather than for its art Stone sculptures are rare on the coast ponderous and severe in the hi hlands It was on the smaller objects the pottery vessels the textiles and the metal work that the Peru vian artist lavished his skill and his creative art Art was a constant element of his daily life not an interest apart from it However it was as a craftsman – or craftswoman – rather than as an artist, that the Peruvian was pre eminent As weavers potters and goldsmiths they could hold their heads proudly amon their peers anywhere in the world And in the textile industry the Peruvian woman is considered by many technical experts to have been the foremost weaver of all time

been found in these graves it is certain that the highlanders of Peru and Bolivia wove as excellent textiles as the coastal peoples and the same may possibly have been true of Ecuador and Colombia.

There are three reasons why the textile art was of such importance in Peru and therefore attained such a high degree of excellence The cool climate of the high plateau required warm clothing and even on the coast it was welcome protection from the chill fogs The Peruvians had the advantage over all other American Indians in possessing wool from the cameloid animals thus of the four important natural textile fibres cotton wool bast, and silk they lacked only the last. The most important bast fibre flax was also absent. And last owing to their developed agricultural economy there was plenty of leisure time between harvest and planting leisure time to be devoted to technical and artistic progress In Peru as we have seen under the Inca empire at least certain persons especially some of the Chosen Women spent practically their entire time at spindle and loom

Probably throughout Peruvian history as in the later Inca period and as generally among primitive peoples throughout the world the women were the weavers presumably as to day they spent much of their time at the loom and constantly spun as they walked In addition to weaving new garments they mended old ones re weaving worn and torn places much like a modern invisible mender instead of darning them Weaving new cloths for mortuary purposes consumed not a little of their time Frequently found in Peruvian graves probably always those of women are work baskets made of rushes oblong with lids These always contain a number of spindles balls of cotton and of wool yarn or thread and other such small weaving implements and materials (Plate 54A)

The development of textile techniques in Peru seems to have been a native evolutionary one from simple beginnings The earliest known Peruvian fabrics are those that were found in the excavations at Huaca Prieta (see page 34) a very early pre ceramic site[1] While the Huaca Prieta cloths are by no means

1 Bird 1948a 1948b

Chapter 15

TEXTILES

IT is difficult to write of Peruvian weaving in any but fulsome phrases or to avoid suspicion of exaggeration and bias Textile experts – not merely enthusiastic archaeologists – state that the ancient Peruvians employed practically every method of textile weaving or decoration now known with the exception of roller and block printing and several very special techniques of recent invention and made finer products than are made to day Certain of the finer fabrics have never been equalled from a point of view of skill Among the textiles one finds twining plain cloth repp twill gingham warp faced and weft faced or bobbin pattern weave brocade tapestry embroidery tubular weave pile knot double cloth gauze lace needle knitting painted and resist dye decoration and several other special processes peculiar to Peru probably impossible to produce by mechanical means

In its aridity coastal Peru much resembles Egypt. In both countries burials were made deep in places where rain is almost unknown with consequent remarkable preservation of objects made of organic materials such as wood and fibre Superficially some Peruvian fabrics resemble Coptic Peruvian mummies (Plates 51 64) like Egyptian embalmed ones were wrapped in quantities of cloth probably made specifically for mortuary purposes and of especially fine quality and were buried often at great depths in the barren deserts that flank the cultivated river valleys The rare but occasional rains have damaged most of the cloths especially in the northern coastal region and the quantities now preserved in museums must be but a small fraction of those originally interred Most of the textiles in collections like most of the pottery and other grave furniture were dug by *huaqueros* mercenary natives who make a business of such excavation Recent laws making the practice illegal have not entirely stopped this vandalism Practically all the known Peruvian fabrics come from these coastal graves Judging from the examples of cloths obviously woven in the highlands that have

loom bobbin and weaving sword. There was no shuttle that was thrown through the warp sheds the bobbin was passed through by hand Probably the spindle itself often served as bobbin also

The earliest known weavers of the southern coast those of the Paracas period as well as those of the later Nazca Valley practised every important fundamental technique known in the latest periods

There is considerable difference between the weaves and materials at Paracas Cavernas Paracas Necropolis and Nazca Plain weaves are common everywhere and plaiting common at Necropolis Twill is missing in the early period and very rare in the middle and late ones Tubular weaves are extremely rare but several very early ones are found Tie dye is missing in the early period, and pile knotting absent entirely Pattern weaves brocade and double cloth are rare and brocade is missing at the Necropolis site Paracas painted fabrics are the earliest known

Wool is found in the earliest periods in this southern region indicating regular trade with the highlands even at this time Wool was always used for embroidery and for tapestry weft as it was over most of Peru in all periods

From Nazca Paracas times on almost all techniques were found in all regions varying in proportion according to the prevailing fashions In the middle periods embroidery became relatively rare the emphasis being on tapestries generally large and complicated. From the north coast few fabrics from this period are preserved Coast Tiahuanaco textiles are noted for their tapestries though brocade double cloth and other techniques are found The designs are of highland origin The finest tapestries were made in this period especially those of the Tiahuanaco horizon found at the central coast sites of Ancón and Pachacamac.

In the late periods embroidery again became prominent but not an over all veneer as Paracas embroidery tended to be Double cloth painted cloth and resist dye processes were in vogue also Fabrics from the Chimu period on the north coast are now preserved tapestry and embroidery being favoured over other techniques these two together with weft patterns are

primitive they are much ruder than those of later periods and made by a few simple methods

Twining and netting are very ancient techniques the world over possibly having developed from basket bag and net making and preceding the invention of the loom Tapestry weaving and embroidery are also very old textile arts of world wide extent and we would expect them to have been the next developments in Peru Tapestry weaving requires only a rudimentary loom hardly more than a frame necessitating neither lease rods nor heddle while embroidery might be expected to *develop early from the practice of attaching objects to the surface* of plain cloth Tapestry as expected is very early on the Chavín Cupisnique horizon in some instances combined with gauze Embroidery however does not appear until the Paracas period and if our chronological sequences are correct was preceded at Supe by more complicated techniques such as brocade pattern weaves and gauze

While twining and weaving were contemporary throughout the pre ceramic period at Huaca Prieta it is curious that weaving remained subordinate to twining for so many centuries It has been suggested that this implies the lack of any effective heddling device

However it is on the south coast that the greatest amount of material is available for study of textile art and development. In this almost perfectly arid region the state of preservation of the fabrics is remarkable The known quantity is very great the technical and artistic quality extraordinary The most prolific source of fine textiles is the Paracas Necropolis but the Nazca cemeteries have also yielded their quota

According to radiocarbon datings about a thousand years elapsed between the time of the last potteryless fishermen farmers of Huaca Prieta and that of the men who deposited the burials *in* the Paracas Necropolis and technology had made tremendous advances in this period From then up to the time of Pizarro no great technical advancement was made in the textile industry The tools used by the Chosen Women who made Atahuallpa s *vestments were practically* the same as those used by the women who made the Paracas mantles simple spindles

with bast definitely of secondary importance In early Ancón and Supe only a trace of wool was found and on the south coast and in northern Chile the older fabrics show a much higher percent a e of cotton than the later ones Cotton however continued in use in all periods and regions

Cotton occurs naturally in Peru in a slight colour range from white to reddish brown and grey To day the natives are said to apply different terms to cotton of six naturally different hues These were – and still are – employed in weaving to provide con trasting colours just as the dyed cotton was

Linen and silk were unknown in Peru but bast the fibres of various plants was used in all periods and places It was seldom if ever employed for cloth however but generally for special products such as fine hair nets and especially for cordage

Wool app rs early on the coast and was in constant use there after especially in the highlands The source was the native high land cameloids the domesticated llama and alpaca and the wild vicuna Llama wool is coarse and generally a yellow brown it was employed for only the coarsest fabrics The garments of the average person in the highlands at least were probably made of alpaca wool which is finer than llama wool and white black or brown in colour Most highly prized was the *fine* wool of the wild vicuna which was caught in communal drives This is very soft and lo g generally of a dark yellow colour and in Inca times it is reported that its use was confined to the nobility How ever the finest selected alpaca wool is as fine as vicuna and apparently in every case where a very fine textile has been closely examined by an expert the wool has *turned* out to be alpaca.

The oft quoted statement that the Peruvians spun bat wool is given no credence by modern authorities the hair (maximum length 5 mm) is much too short to spin into yarn Human hair was occasionally employed for certain purposes and probably also the wool of the viscacha a chinchilla like rodent In northern Chile textiles made of the wool of the guanaco the small wild cameloid of the pampa are said to have been found but guanaco wool is probably too short for efficient use

case of cotton the lint has to be separated from the seeds in the boll Whatever the fibre it must first be cleaned and the strands placed in parallel alignment so that they will combine evenly the latter process is known as carding

In Peru the cotton seeds were probably torn from the lint by hand – just as they were everywhere until the invention of the cotton gin – and bits of foreign material were picked out Wool was presumably washed to remove the dirt Carding for which process most peoples use some special brush or comb like implement, was apparently done by hand though it has been suggested that possibly some of the one row combs that are frequently found in graves were used for this purpose Thus loose fluffy balls of cotton or wool with the fibres roughly parallel were obtained

The threads and yarns spun by the pre Columbian Peruvian women with simple hand spindles have awakened the admira tion of expert authorities in this industry The perfect thread is not to eek says one [1] It has been made The yarns are the best ever produced No machine yarns however excellent can approach their perfection [2] Primarily these praises refer to the fineness though the evenness is also at least equal to that of modern machine made yarns

Aboriginal Peruvian cotton was not of the fine quality of modern cotton and finer cotton threads have been hand spun in Dacca India (500 count) and occasionally made by machine in Manchester (4 0) but considering their material the old Peru vians made by hand extraordinarily fine cotton yarns with a count up to 250 the finest yarns made to day of Peruvian cotton do not go higher than ~o

Wool cannot be spun as fine as cotton but in the alpaca and vicuna the Peruvians had exceptionally fine wool and they utilized it to the full their wool yarns were the finest and most perfect ever made The finest worsteds made to-day have a count on the industry s cotton scale of 70 to 90 the best old Peruvian wool yarns are almost three times as fine between 180 and 200 The finest wool tapestry weaves frequently have over

1 Murphy 19 2 Volum 3 p 83
2 Crawf d 1915 p 77

yarns revolving in a cup and thus reducing strain and vibration

The direction of the twist varied in different times and places In th Inca period it was generally clockwise However in doublin, to produce a two ply yarn the direction was always opposite to that u ed in making the single ply yarn, so the spinner had to be equally adept in both directions

Sin le element Techniques

True knitting and crocheting are claimed to have been un known in ancient Peru but somewhat similar results were obtained by other processes Netting was of the greatest im portance since earliest days and probably long preceded loom weaving it was a common technique at Huaca Prieta Several other knotted and looped techniques were known The products range from large coarse fishing nets and sacks to small bags and hair nets Lace work falls in this category Kn itting reached its highest development in the creation of closely knotted fabrics usually caps or hats frequently including decorative feath rs or pil Single element fabrics are found in all horizons but are more common in the early ones

La e is often mentioned casually in articles and books on Peruvian fabrics but no definite study of Peruvian laces seems to hav been made The delicate gauzes have a very lace like ap pearance and doubtless have often been mistaken for lace The term lace covers a number of different techniques some single some multi element, and even drawn work Doubtless many non woven products of the early Peruvians such as some hair n ts will be found to match some of these techniques (Pla es 46B 50A)

PLAITING AND BRAIDING

Naturally the technique of making objects by twisting together three or more similar elements was not unknown to or ignored by the ancient Peruvians The process is somewhat related to twining except that all three elements are parallel. It was em ployed to some extent in almost all periods and regions naturally

two hundred weft strands to the inch and three hundred is not very rare

Such extremely fine threads and yarns were of course the product of years of care experience practice emulation and competition The yarns in the oldest known textiles those found in the Chicama Valley are relatively coarse and uneven evidently an early stage in the art But progress was fast and the fabrics in the very early Paracas period were already approaching the perfection achieved in the latest periods In fact some of the finest thread was made in the early periods

The implements employed in the manufacture of these extraordinarily fine and even threads and yarns were of the simplest a forked stick for a distaff to hold the fluffed fibre and a plain hand spindle In these as in the loom there seems to have been little improvement throughout the long history of Peruvian weaving although in the very earliest period as for instance in the Chicama Valley no identifiable spindles or whorls have been found and it is possible that plain sticks were used However the simple hand spindle a straight stick with a whorl or disk on it to give momentum was the universal spinning implement almost everywhere in the world until relatively recently for the spinning wheel was only *a few centuries old when it went the way* of the whale oil lamp The spindle was given a whirl with the fingers which twisted into thread or yarn the cotton or wool fibres as they were pulled out from the loose ball of fibre on the distaff While it was twirling the spinner s fingers teased out *over large knots of fibre to make the thread of even thickness*

To day the Peruvian Indian woman is constantly spinning as she walks when away from home letting the spindle fall and thus providing the needed tension The drop spindle is used to day only with wool yarn cotton is spun while seated the spindle whirling in a gourd or bowl The drop spindles are larger with larger whorls and the yarn produced is probably coarser than the cotton threads Presumably the customs were the same in early days (Figure 3) Many of the spindles found archaeologically of thorn or hard wood are so small with such tiny whorls that it has been doubted whether they really served this purpose They were probably used in spinning the finest *threads and*

implement on which the finest textiles were woven One end was fastened to a post or tree the other to a band round the weaver s back by which means the desired tension was maintained The heddle was lifted and fixed in position by hand there was no treadle Apparently several other types of loom were known at different times and places for different products but the small one woman arm span loom was the standard everywhere at all times as it is to day (Figure 4)

Apparently the weaver s only other tool was a weave sword or batten for separating the sheds more widely and for beating down the weft (Plate 59B) As the weaving proceeded the fini hed cloth was wound up on the lower loom bar while the warps were unwound from the upper bar

TWINING

Twining is the simplest and probably the oldest method of fabric making and was possibly adopted from the certainly earlier processes of basket and mat making While made by crossings of warp and weft, a true loom is not required a simple frame sufficing The intertwining of warp and weft is done by hand a pair of weft strands being twisted round a warp element the twisting is continuous

Twining is certainly the oldest fabric technique in Peru Excavations in the pre ceramic sites of the northern Peru coast indicate that ,8 per cent of the fabrics were twined most of the remainder being single element netted objects The twining however was highly developed the crossings being varied to produce pleasing patterns and effects

Soon with much greater dependence on woven textiles twin ing became unimportant and disappeared from the picture almost completely

GAUZE

Delicate lace like gauzes in a great number of patterns were especially popular in the early periods on the coast such as Cup snique and especially at Paracas Cavernas though they continued to be made in all periods Pairs or more of warps are

mainly in the manufacture of long narrow objects such as slings, ropes and cords and to a lesser extent in flat bands Even in these utilitarian objects however the Peruvian talent and artistic sense manifested themselves for every possible method of decoration was applied to them and every conceivable variation of manufacture employed Since a long cultural history antedating loom weaving would be expected it is surprising that no examples of braiding or plaiting were found at Huaca Prieta

PILE KNOT

Several processes for giving a raised effect to fabrics were known in Peru Loom woven cloth was varied by pulling out weft strands to form loops like a Turkish towel and fibre was caught in the weave in a quasi pile technique (see page [illegible]5) But the most interesting and most attractive pile knot technique and the one that gives an effect most approaching that of Oriental rugs was apparently peculiar to Peru The pile was not woven into the fabric but the technique was related rather to the single element one of netting That is the bunches of fibre were caught in the loops of a single yarn The pile was later trimmed off to give an even regular surface

Bright colours forming designs and patterns were used in these bunches of wool fibre and the technique was employed principally on hats head bands and bags A variation of the process produced long cords of unknown purpose the looped yarn enmeshing the pile tufts was wound round long fibre cords The pile technique was apparently a rather late invention and was particularly favoured in the Tiahuanaco period in which it first appeared.

Weaving

The admirable fineness and quality of Peruvian fabrics were due to the patience care knowledge and skill of the weaver not to the quality of her apparatus for this was of the simplest The primitive back strap loom was used in all periods and underwent little development from earliest to latest times it was the

and eccentric tapestry in the more usual interlocked weave the weft lines were carried straight across

Gobelin tapestries portray life scenes Peruvian ones are not frequently geometric though more often stylized and conventionalized biomorphic Gobelin tapestries have the backs unfinished with loose hanging yarn ends but Peruvian tapestries are mostly two faced the two sides identical and equally well finished the ends of the yarn are carefully tucked in and hidden between the warps so that they are never seen and never come loose The pattern with the same colour on both sides of the cloth is the identifying criterion of tapestry in loom pattern weavin in two colours the two are different to front and back

Tapestry weaving is simpler than loom pattern weaving and presumably older preceding the adoption of the heddle It is the weave used in much primitive weaving at least in America Navaho blankets or rugs Mexican serapes and most other examples of aboriginal American weaving are done in this technique usually however employing the heddle

Tapestry seems to have been the favourite – or at least the most highly prized – Peruvian technique especially in the Middle and the Inca periods It was at its apogee in the Coastal Tiahuanaco or Epigonal period The most perfect, the finest, and the loveliest Peruvian fabrics are the tapestries they are among the world s triumphs in the textile art (Plate 48A)

Peruvian tapestry is always made with warp of cotton and weft of wool generally fine alpaca or vicuna wool and the weaving is the finest and daintiest The weft is always battened down hard so that it completely covers the warp Gobelin tapestries are coarse with an average of twenty wefts per inch and the finest European tapestries seldom exceed eighty five In Peru two hundred per inch is not uncommon and Bird records[1] one extra ordinary piece with an average of 327 and running up to 500 in some closely packed parts of the design This is presumably of two-ply vicuna wool The warp is of three ply cotton sixty seven to the inch

In almost every type of weaving the Peruvians experimented

1 Bennett and Bird 1949 p 277

crossed or intertwined in various patterns and then fixed in position by the weft Though the manipulation may be done with the fingers the work is simplified by the use of a heddle Almost all Peruvian gauzes are fancy or combinations of plain and fancy techniques elaborate and skilful They are also decorated with other techniques such as embroidery Almost all are of cotton a very few of wool Developed at a very early period gauzes are among the loveliest most interesting and most varied of many admirable Peruvian weaves They somewhat resemble lace and are sometimes mistaken for it

TAPESTRY

Tapestry is generally visualized as a large loosely woven fabric used as a wall covering or other hanging None of these characterizations applies to Peruvian tapestries which are very tightly woven of moderate size and used for garments pouches and similar purposes For to the textile expert tapestry is a technique, not a product and tapestry technique is basically the same in the small exquisite Peruvian fabrics and in the great Gobelin wall hangings

Tapestry weaving has been defined as darning or embroidery on bare warps Though generally woven on a loom with a heddle only a frame is needed since there is no division into warp sheds and the weft is ordinarily not carried across the full width of the warps The pattern is always formed by the weft More colours can be employed than in loom pattern weaves there is no limit to the number of colours that can be used in a fabric. Each coloured yarn is carried on a separate bobbin and the weaver builds up the pattern bit by bit passing the bobbin over and under the warps until the pattern calls for a new colour then letting the old colour bobbin hang and taking up the new one Two methods of procedure are possible The weaver may finish one line of weft at a time dropping one colour bobbin and taking up the next as the design changes or she may build up one complete coloured design before proceeding to the next In the latter case it requires much skill to keep the weft lines even and the cloth unpuckered Nevertheless this seems to have been the usual technique of the Peruvian weaver when making slit kelim

clature must be developed It is unnecessary to go into such detail here

Several such techniques were performed on skeleton yarns or cords which were removed after the cloth was woven and the fabric later strengthened and locked by the insertion of other new and additional strands

This technique has been called weft scaffolding or patch work and is found in a number of variations One of these gave rise to the term patchwork In this the cloth was woven in solid colour squares but the vertical weft loops were not inter locked When the horizontal yarns over which the warps were looped were removed the cloth fell apart into small rectangles These were then decorated with tie dye designs and since the edge loops to top and bottom were open the fabric was pieced together again by the insertion of the horizontal yarns doubtless with the aid of a needle

PATTERN WEAVES

Both warp faced and weft faced or bobbin patterns were made by the ancient Peruvians and the results were up to their usual high standard but these processes were never so popular as tapestry embroidery and brocade brocades are much more common than bobbin weaves The best examples of warp faced textiles are found in the later periods on the southern coast and the technique continues important in Peruvian native weaving to-day

The warps were always of cotton the weft of wool or cotton While one or two heddles may have been used the design was probably most often made by hand picking the warps.

One variety of warp faced plain cloth known as repp was very common and is often considered a characteristic feature of ancient Peruvian weaving The fewer and heavier weft strands give a ribbed appearance to the fabric

DOUBLE CLOTH

Double cloth was a favourite weave though a rather intricate one Two sets of warps and wefts each pair of the same colour

and produced variations which are unknown elsewhere One such has been termed sheer tapestry Though made by tapestry technique it has the appearance of voile being loosely woven of single ply cotton crape interlocked A very rare variation of this is the Swedish or two way interlock in which the weft locks produce a ridge on the rear side of the cloth

In tapestry weaving rectilinear patterns present no problem when they are diagonal but it is obvious that vertical straight lines leave a slit between the design elements unless both wefts encircle the same dividing warp which makes closely battened weaving impossible Frequently the slits especially if short, were left open – a technique known as kelim To close them and to eliminate this element of weakness any one of several tricks might be employed In the Nazca area subsidiary wefts of hard spun single ply cotton so fine that they were hidden between the wool weft were often inserted the term reinforced kelim has been suggested for this Another method was to interlock half or less of the weft loops across the slit Or a vertical weft might be wound round an intervening warp strand occasionally looping to the sides to bind in the adjacent warps This independent weft is often of a black colour and gives a dainty dark outline to the coloured pattern the same black yarn is sometimes employed to outline all rectilinear design areas

SCAFFOLDING TECHNIQUES

The Peruvian weaver as has been intimated before herein was no routine labourer she took the old fashioned guildsman s pride in her work Every piece was somewhat different from any other her loom was an instrument for art expression not merely a machine And just as she gave thought to the intended design and calculated the number of picks required to produce it so she experimented with all possible manipulations of warp and weft. Often combinations of several techniques are found on one fabric It is natural therefore that complicated textile processes were invented that have been found nowhere else in the world that must be described in detail to be understood that cannot be duplicated by mechanical means and for which a new nomen

a gauge or rod that was later withdrawn. The purpose was probably warmth rather than decoration which can certainly be said of some shirts and shawls from northern Chile of a late period. However such tufts of alpaca wool were wrapped around certain warps during the process of weaving: the result is coarse heavy and utilitarian but definitely not beautiful. Both of these processes were probably rare and of very limited temporal and geographical distribution.

BROCADE

Though brocade resembles embroidery so closely that they are sometimes difficult to distinguish the methods of manufacture are entirely different. Both are decorative overlays on cloth but embroidery is added with a needle like implement after the cloth is woven while brocade is applied during the weaving process by means of supplementary wefts which are brought to the surface when needed to form the pattern and hidden under the utilitarian weft when not. Brocade must therefore always follow the weft line while embroidery may be sewn at any angle. One criterion for distinction is that embroidery is always carried through the cloth and appears equally plainly on the reverse side while brocade is hidden in the cloth when not desired in the design. Brocade wefts are thicker and less hard spun than the real weft so as to cover the latter in patterns they are also inserted more loosely.

The earliest brocade is found at Supe it is also common at Paracas Cavernas.

Both brocade and embroidery were very popular in Peru and the former is much more common than bobbin weave probably largely because more colours could be used.

EMBROIDERY

The fundamental technique of embroidery has been discussed in the preceding section on brocade. Embroidery was both very popular and extraordinarily well made in Peru especially in some of the early periods. It was done with a needle like implement in cotton or wool yarn and generally on a loosely woven

are employed producing two layers of cloth of contrasting colours the design being made by interlocking the cloths so that the motif appears on the reverse face in the opposite colour This weave was popular in earlier days in the United States for home made bedspreads

In Peru double cloth was employed principally for pouches where light weight and durability were essential the pieces are never large The weave is not very fine never more than forty eight to the inch the warp and weft count always equal Almost all are of cotton yarn and brown and white are the colours most frequently employed The setting up of the loom is of course rather complex and for rapid work four heddles would be required It is doubtful if these were employed in Peru in this as in all simple weaving heddles can be dispensed with if the weaver takes the time to count the warps and pick them by hand Rare examples of three and even of four layered cloths each of a different colour have been found in Peru (Plate 48B)

The earliest example of double cloth is from Paracas Cavernas but the high quality of the work indicates a long developmental period somewhere the technique became quite common in later periods in practically all areas

Decoration of Fabrics

On the question of cloth decoration there is a gradual variation from pure weaving to the attachment of objects a gradation that makes it difficult to separate the techniques into categories At one extreme there is the drawing out of weft strands into loops like a Turkish towel a process very different in technique from but producing much the same effect as the insertion of pile fibres during weaving Another process of decoration during weaving is brocade embroidery gives much the same effect but is applied after weaving The tie dye technique may be used either before or after weaving

The Turkish towel effect is found on some cotton shirts where a loop an inch long is left between the warps on certain weft strands producing horizontal lines of loops at regular spaced intervals Probably the wefts thus manipulated were passed over

in the world and one mainly due to European influence Most native peoples wear – and wore – their textiles uncut and just as woven this was probably universally true in aboriginal America With their highly developed textile industry however it is natural that the Peruvians should have experimented with the manufacture of fabrics woven in non rectangular shapes a process to-day practically limited to knitting The techniques involved however are rather simple as were the results Most of the shaping was achieved by making one edge of the cloth – generally the upper edge – wider or narrower than the opposite one

Tubular Weavin

Weaving seamless tubular belts ribbons and straps was one of the interesting accomplishments of the Peruvians such objects are much more easily and frequently produced – to day at least – by knitting No technical study of these has been made but presumably the warps were strung on rings serving as loom bars the weft forming a continuous spiral They are generally decorated in warp faced technique Sometimes they are perfectly tubular of circular cross section but more often the two sides are combined to make a thick flat fabric with rounded hollow edges in a sort of double cloth fashion these were used especially for the handle bands of cloth pouches The historical development of tubular weaving has not yet been worked out, but as might be expected it apparently is not found in the early periods but became common and popular in the later ones

Tie and Dye Techniques

The decoration of cloth – and of other objects – by processes that involve the coverin of certain parts so that these remain unaffected when the object is dyed is one of widespread distribution especially in south eastern Asia The best known of these is the batik technique by which a design is painted in wax on the cloth which is then dyed and the wax removed leaving the design in white the background in colour This process was and

cotton fabric Unknown at Huaca Prieta no examples have been found at Supe and the earliest known pieces are from Paracas Cavernas Later it declined in popularity as in quality and late embroideries are distinguishable from brocades only on careful examination since the stitch always follows the weft line In fact in all periods free embroidery with stitches at any angle, is virtually unknown it was not in accord with the aesthetic sense The exquisite embroidered Paracas mantles (Plate 49) have been described earlier

Needleknitting

Some of the daintiest and loveliest Peruvian sewing is done in a technique now generally termed needleknitting although other names have been applied to it for its exact nature was long not understood It has the superficial appearance of knitting, but is actually an embroidery technique and probably was done with a needle The stitch used is that known as buttonhole in embroidery While it is also employed in edge and seam bindings and even to decorate rather large fabrics its highest and most spectacular and admirable development is in small three dimensional figures which as one writer has aptly remarked must be seen to be believed These are tiny realistic figures generally of birds and flowers but occasionally of other objects that were made independently as a border or fringe and sewn to the edges of Nazca fabrics They give the impression of the most delicate and even knitting but are actually embroidered on a foundation of yarn or tape completely veneering it The work is always done in two ply wool yarn with an average of twenty loops to the inch and in five or six bright colours This technique is found in all periods in the southern and central Peruvian coast but not on the north coast it was most common and brought to highest perfection in the early periods at Paracas and Nazca (Plate 50B)

Shaped Fabrics

Tailored clothing – that is to say garments made of cloth cut to desired shape and sewn together – is a relatively recent concept

al o tassels or fringes were made on the edges either sewn on or much more often made during the weaving process

Fringes were easily made from the warp loops where they encircled the loom cord or rod and the wefts were often carried out to either side possibly with the help of temporary warps these warp and weft loops were either left open or treated in some decorative fashion. Another method of finishing the warp-end edges of cloth was to complete the weft weaving around the loops so that a tubular edge of very slight diameter was produced To do this it was almost certainly necessary to remove the fabric from the loom and probably to complete the weave with the aid of a needle

Painting and Appliqué

One of the simplest methods of decoration whether of cloth or of any object is by painting Painted fabrics are found in various periods in Peru but apparently none earlier than Paracas Necropolis Probably most often made hastily in an emergency they are not in keeping with the Peruvian perfectionist sense in textiles they are common in no period Naturally the cloths and the designs are rather large the colours few A few cloths decorated with designs made by stamps presumably of carved wood are known (Plate 47)

Fabrics covered with a mosaic of feathers are rather common and are exquisite but the emphasis is on the overlay they are feathers attached to a utilitarian background rather than decorated fabrics Sometimes they are cemented to the cloth but more often attached to cords and sewn on

In the later periods cloth garments were decorated by the attachment of metal sequins bangles beads and such extraneous ornaments

is unknown in America on cloth though on pottery known as negative painting it was sporadically widespread The pre Columbian American resist dye processes on cloth are those known as tie dye in which the parts of the cloth or fibre to remain undyed were bound with cord or some other similar relatively impermeable material Two varieties of the technique were practised *plangue* in which the finished cloth was treated and dyed and *ikat* in which the yarn was tied and dyed before being woven into cloth

The designs that can be made on cloth by the plangue process are necessarily simple and the cloth is generally a loosely woven fabric that can easily be thoroughly soaked The most common technique was to gather up and tie small puckers of the cloth in regular lines This resulted in lines of small light coloured rude squares or circles with a dark dot in the centre on a dark background Sometimes this was done twice with different colours This tie dye process was often used in connexion with patch work weaving (see page 251)

The ikat tie dye process was much more intricate for the entire pattern had to be planned and calculated in advance so that the warps would be dyed in such a manner that they would form a design when woven into cloth wefts were never dyed in this fashion The warps were counted grouped and tied with impermeable cord before dyeing they were often retouched with paint later Relatively few examples are known and all are limited to the late Tiahuanaco horizon of the Chimu area however the process is well known to day in the Andean highlands and in Guatemala It apparently appeared later than the plangue technique Both processes are still very popular in Indonesia

Borders and Fringes

By far the majority of Peruvian fabrics were made to be worn as garments and therefore their aesthetic effect was of maximum importance Very rarely were edges left plain and generally the last few inches of the cloth adjoining the border were decorated with a pattern different from the body of the textile this was often also done in a different weaving technique Very generally

pre erved the plainer utilitarian pots were replaced only when broken, and the fragments thrown away with the household rubbish

Ancient Peru can probably claim first rank in America both for the quantity and the quality of its ceramic products The majority of these come from the graves of the coastal ceme eries The latter made in the arid deserts on the edges of the cultivated and populous valleys contain quantities of graves from which na ive treasure hunters – and in recent years professional archae ologists – have excavated great numbers of pottery vessels many in mint condition The Peruvian pottery vessels in the world s museums must amount to several tens of thousands Some graveya ds have been discovered relatively recently and prob ably others with types of pottery unknown to-day will later be found For instance the beautiful Nazca pottery of which almost every large archaeological museum now owns a large collection was known by only a few examples until Dr Max Uhle discovered the cemeteries in 1902

The ceramics from the Peruvian highlands while good especi ally from a technical point of view are neither so common nor so artistic admirable or interesting as those from the coast The cemeteries were smaller and more widely scattered and also probably the production was less

Deposits of clay suitable for pottery making were accessible to mo t population centres in Peru but naturally they ranged from excellent to poor and this had i s effect on the quality of the result. Few of the clays however could be u ed just as found and the addition of a tempering material to prevent cracking in the baking process and to make the clay more malleable was generally necessary This was generally pulverized rock mica sand shell or potsherd each region and era had its favourite material one of the criteria for ceramic determination.

One of the great differences between pottery making in the New and Old Worlds is that in the former the potter s wheel was unknown, vessels w re shaped by hand or cast in hand modelled moulds Generally they were made by the process most common and widespread in America, that of coiling The clay was puddled to the proper consistency and mixed with the tempering material

Chapter 16

OTHER CRAFTS

Ceramics

POTTERY is the consuming interest of the archaeologist – at least of the archaeologist working in America This interest however is in slight degree aesthetic in fact a bit of a broken plain unpainted vessel of unusual provenience is of more importance to him than an artistic creation from a better known region For the lowly potsherd is the archaeologist s principal diagnostic criterion of cultural phases the standard by which he determines distinguishes and often describes major and minor temporal cultural developments and local differences The possible variations in form and in technique of manufacture are so great those of ornamentation so limitless that the archaeological expert can distinguish the ceramic product made in any region – often at any single site – at any given time and sometimes even recognize the work of individual potters Moreover the potsherd is almost as imperishable as stone and vessels carried in trade to distant regions afford clues to the contemporaneity of two cultures

Thus since pottery is the principal distinguishing criterion for a number of Peruvian culture phases of which we know nothing historically the latter are often designated by the characteristics of their ceramics as for instance the White on Red Black-on White Black Red White and Interlocking periods

However in America ceramics achieved the status of a major art medium it was a craft not merely a trade Practically every group with any claims to cultural advancement made excellent and artistic pottery as did a number of otherwise quite primitive peoples The vessels upon which the most artistic skill was lavished were of course those interred with the dead and probably made especially for that purpose the burial of many pottery vessels with the dead seems to have been a rather frequent American practice Fortunately of course these are the best

done in the open but in some places and periods kilns or pits may have been used The temperature achieved was quite high though of course nothing like that required for modern vitreous ware The two principal types of firing were understood and controlled the oxidizing and the reducing In the former a fast fire sometimes fed by forced draught produced hard light-coloured wares of red yellow or creamy paste In the reducing atmosphere the supply of oxygen was restricted, as in charcoal burning the heat kept lower and much smoke produced This resulted in a black *bucchero* ware which took a high polish Glazed pottery was unknown

In addition to painting designs with coloured pigments incising them with some tool and applying relief ornamentation vessels were decorated with stamps cut in a pattern and the background was sometimes cut away leaving the design in relief The incised or impressed design might be made by a sharp or blunt instrument a finger nail a notched shell decorated dies or paddles and other methods

Direct painting in one or many colours was the most common painting process but in a few places and in certain periods an interesting resist dye process known as negative painting (formerly called lost colour) was practised Most often apparently the decoration was painted on the surface with some wax like substance after which a solid colour was applied or the entire vessel dipped in a dye thus colouring the background The wax was then burned or melted off leaving the design in negative This process is found sporadically over America from Peru to Ohio and probably has some historical relationship with dye resistant textile processes such as batik and ikat Sometimes parts of the vessel were then painted with a second colour Pieces of soft clay or other removable substances might be used in place of the wax

A very large number of pottery shapes are found in Peruvian ceramics although, naturally any given cultural phase utilized only a few of these Bowls plates goblets pitchers vases and jars with their many possible variations are all common Typical of Peru are the vessels with double vertical spouts connected by a solid bridge and especially the stirrup spouted ones in which two upward-curving tubes unite in one vertical tube The double

After modelling the base the potter then rolled out a 'snake' of clay varying in thickness according to that of the desired vessel and coiled this round and round gradually building up the side of the vessel to the desired shape As the height increased he smoothed the vessel outside and inside and obliterated the depressions between the coils with his hands aided by a smooth stone or a piece of cloth The 'paddle and anvil' method of striking the exterior of the vessel against a stone held inside it, was probably also used Vessels and other objects were also made from large lumps of clay by simple modelling without the use of coils Contrary to the usual American Indian usage men and not women seem to have been the potters in Peru

Smaller pottery objects were often made in clay moulds and on the northern coast this technique was used even for vessels of fair size Few of these moulds have survived and apparently none for the larger vessels but the finished products betray their method of manufacture Human figurines or dolls were the principal mould made product Moulds were of two separable parts so that quantity production was possible but – in the case of the larger vessels at least – known duplicates are rather rare The small solid figurines were made in one piece the large hollow vessels in two later luted together the seams smoothed and relief parts such as spouts handles and ornamentation applied later Some vessels in the form of fruits vegetables and such small objects are so perfect that it is obvious that the mould was made from the natural original Probably grease from animal fat was used to prevent the object thus cast and the resultant product from sticking to the mould (Plate 55)

After modelling or moulding the exterior of the vessel or object was smoothed and sometimes polished Generally especially if painting was to be applied a wash of thin clay called a slip was applied to the surface Vessels were decorated by relief ornamentation by incision engraving or carving by stamping with relief stamps or by painting This was usually done before baking paint applied after firing is not permanent

The ancient Peruvian techniques of baking pottery are imperfectly known but as the results were excellent we may be sure that they were good and well controlled Baking was probably

first gold objects in America were probably made either in Colombia or on the coast of Peru The earliest technique was apparently that of repousse the gold was beaten into thin plates and tooled or hammered over forms into designs

In the Chavin period goldsmithing had already reached a high technical and artistic plane The next gold ornaments appear in the Salinar period on the Peruvian northern coast and the Nazca Paracas period on the southern coast the latter are not uncommon and of a high quality of art and technique In these early times there seems to have been no copper or silver used and no casting in gold

The development of metallurgy is not of sufficient importance nor indeed are the evolutionary details well enough known – to warrant detailed exposition here Suffice it to say that through the centuries the casting of metal objects was developed copper was melted and cast and mixed with tin to form bronze and silver was also melted beaten and cast.

Goldsmithing was widespread and both the quantity and the quality of the work in Ecuador Colombia and Panama were equal to that in Peru Silver and bronze are not found in the northern countries and platinum was worked only in southern Colombia and Ecuador

The discovery of ornaments of platinum on the coast of Ecuador has astounded and intrigued modern metallurgists for its melting point (about 17,0 C or 3218 F) is beyond the capabilities of primitive furnaces and it was unknown in Europe until about 1730 The tiny beads and other ornaments appear to be of pure platinum but actually consist of an alloy rich in platinum with some gold and a little silver It was worked by the process known as sintering Small grains of platinum were mixed with a little gold dust the gold melted under heat and soldered or welded the grains together it was then hammered into shape [1]

Gold was apparently secured only by placer washing in streams The nuggets and dust sometimes contain a considerable quantity of silver Silver copper and tin were mined from pure veins or lodes it is questionable whether the Peruvians

[1] Bergsoe 1937 Root, 1949b

whistling vessel is unique to Peru This consists of two bottle shaped jars connected at the bottom One of them has an open neck while that of the other contains a whistle generally combined with a naturalistic figure When tilted so that the liquid flows from one chamber to the other air is forced out of the whistle orifice

In Peru as indicated by the excavations at Huaca Prieta the art of weaving preceded that of pottery making However the earliest known Peruvian ceramic that of Guanape is already of good quality and must have had a long period of development behind it possibly in some other area near by or far away The sequence of technical ceramic development still remains to be worked out for Peru However there seems to have been no important technological improvement from earliest to latest times the Inca potter used essentially the same processes as his Guañape predecessor

Metallurgy

Because of the technical difficulties of producing and working metals they always appear late in the histories of cultures and are marks of considerable advancement In the Old World copper and bronze appeared late in human history iron even later, and all were used mainly for utilitarian objects

Aboriginal America never achieved an iron age Iron in a free state is almost never found except in meteorites and the melting temperature is very difficult to attain by primitive methods Native copper was worked by prehistoric Indians in the region of Lake Superior and in Mexico gold and a very little copper and silver appear on a late horizon but the Andean region was the great and probably the earliest centre of metallurgy in America Gold silver copper and even platinum were worked and tin was alloyed with copper to form bronze Very rarely lead and mercury were utilized Most of the products however were ornamental rather than utilitarian

Historically gold was doubtless the first metal to be worked It is easily secured in pure condition by placer mining and can easily be fashioned into lovely untarnishable ornaments The

All South American bronzes are of the so called alpha type with a tin content of less than twelve per cent they are relatively soft unless cold hammered

The technique of annealing or tempering was probably discovered even before casting some metals or alloys are hardened by this process some softened It is uncertain whether or not welding was known but soldering was practised from the earliest periods No mercury or amalgam was used but powdered copper salt was mixed with a gum and applied to the surface with heat this reduced the salt to metal and fused the surfaces together

Several processes of gilding were known. One was true gilding the application of thin gold – or silver – leaf to a surface A mould was sometimes lined with gold before the molten copper was poured into it. Or an object might be coated with a mixture of powdered gold and mercury heat evaporated the mercury and deposited the gold Much more common, at least in Colombia and the Isthmian region was a process which is known as *mise en couleur* and was known also to Old World goldsmiths An object was cast of an alloy of gold and copper and the surface then treated with the juice of an acid bearing plant which dissolved the copper The pure gold surface could then be burnished

Tiny beads of exquisite and dainty workmanship were cast especially in Ecuador and larger objects were made of two different metals such as gold and copper gold and silver or of two different alloys of gold of different colours (Plate 41) Gold or silver inlays were also made in base metal or other materials

Woodcarving

Carving in wood is a practically universal craft that must have been practised by almost every American group past or present Owing to rapid decay however only under exceptional conditions have wooden objects of past civilizations been preserved such American archaeological objects are extremely rare everywhere except in Peru Here as in Egypt very arid desert conditions on the coast have permitted their preservation almost in

were ever able to smelt these metals from ores but the evidence favours the smelting of copper and silver

In their furnaces the Indians seem to have used charcoal but they had not invented the bellows draught was produced by blowing through tubes and sometimes a large number of natives were thus employed on one furnace Another method was to build the furnace on a hillside where there was a constant up draught.

Gold silver and copper were all hammered into thin sheets and embossed (Plates 4, 5) They react differently to cold hammering and to tempering Cold hammering makes copper very hard harder than cast bronze of low tin content this is probably the true explanation of many legends of lost arts of tempering copper Apparently all processes of hammering annealing and alloying were practised in Peru to give the most desirable results Alloying lowers the melting point of metals and bronze was probably produced primarily for greater ease in casting rather than for greater hardness

Gold silver copper and bronze objects and especially gold ornaments were made by casting The process was that known as *cire perdue* or lost wax a technique known also to Old World goldsmith it is an open question whether it was independently invented in America The desired ornament was modelled in wax either with or without a core of clay or of some similar substance This was then covered with a thick envelope of clay through which an orifice was left After the clay had hardened the mass was heated and the melted wax allowed to run out through the hole Molten metal was then poured in to replace it duplicating in metal – sometimes with a pottery core – the wax figure The outer envelope was broken to extract the ornament so there was no duplication or quantity production This was the method employed in Mexico and almost certainly also in Peru and the regions between

Probably pure gold was the first metal to be cast in the Moche period then silver and copper later various alloys and finally bronze An alloy of gold and copper known as *tumbaga* was much used in Colombia and the Isthmian region but to no great extent in Peru this and bronze were the most important alloys

All South American bronzes are of the so-called alpha type with a tin content of less than twelve per cent they are relatively soft unless cold hammered

The technique of annealing or tempering was probably discovered even before casting some metals or alloys are hardened by this process some softened It is uncertain whether or not welding was known but soldering was practised from the earliest periods No mercury or amalgam was used but powdered copper salt was mixed with a gum and applied to the surface with heat this reduced the salt to metal and fused the surfaces together

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their original state They occur mainly in graves on the coast but many have also been found while excavating guano on the islands off the coast these were probably lost there during similar visits for fertilizer in pre Columbian days

Spades shovels paddles clubs digging sticks batons and similar objects are the larger things known very often their use is problematical Many are ornately decorated with carving and painting Weaving tools such as loom sticks weaving swords spindles and bobbins are the commonest objects found in graves but there are also ear ornaments figurines spear throwers and dozens of other implements and ornaments (Plates 58 60)

One of the most characteristic types of wooden objects is the kero or *quero* a tall flaring wooden cup of thick hard dark wood While the shape was most characteristic of the Tiahuanaco period most of the known keros date from the last days of the Inca empire or from early colonial times They are usually painted with pictorial scenes featuring ornately dressed human figures and frequently these wear Spanish costumes The bright colours are in a sort of mastic lacquer inlaid in a modified cloisonné technique Most of those now known have probably been preserved in Peruvian houses since the day of their manufacture (Plates 39 40)

Miscellaneous Techniques

Feathers were favourite materials of the ancient Peruvians Brilliant colours such as red blue and yellow were preferred and feathers of the parrot and macaw probably supplied the bulk of the material for small and delicate mosaics humming bird feathers were used Naturally few of these fragile art pieces are preserved in a state approaching their pristine beauty Feathers were applied to many things but large mantles collars and the capes of head dresses with rich designs in feather mosaic of bright colours are the most striking The small feathers of uniform size were individually tied to a background fabric.

Colourful fine grain stones taking a high polish were naturally carved into beads, pendants and ornaments of many types

Most of these stones are extremely hard but nevertheless the lapidary probably practised his art with little if any use of metal tools (he had only bronze at the best) but depended more on abrasives Naturally the work was very slow Beads tend to be small Small stone bowls with llama effigy heads are very characteristic of the Inca period (Plate 38)

Similar objects were made of bone and shell but each material has its specific properties thus bone was used for awls needles weaving implements and many long tools The large spondylus shell was happily employed for roseate inlays and ornaments while the triton and other large univalve shells were used as trumpets One peculiar material was octopus eyes which were used to represent human eyes on mummy bundles (Plate 61)

Basketry an art in which many American Indian groups excelled was of no artistic importance in Peru Doubtless rather rude utilitarian basket containers were made for many purposes but few of these have been preserved The best known are small oblong rectangular baskets with attached lids made of rushes or grass which were used by women to hold their small weaving tools and balls of yarn and which were buried with them (Plate 54A)

APPENDIX



Sources

IT must be constantly kept in mind that we have no first hand sources of information on Peruvian history and customs until the Inca were overwhelmed by the Spanish in 1532 Before that time there was no system of writing the only known records the quipus – knotted strings – were mnemonic aids accurate only arithmet cally the context known only to those cognizant of the subject in question For the greater part of this pre Columbian era our only data are those suppl ed by the trowel of the archaeolog st and the spade of the native *huaquero* (treasure hunter) data mainly on material culture and manufactures Some deduct ons regarding social and religious life can be drawn from these – a good deal in the case of the life forms and paintings on Moche pottery – but no clues to such topics as history

Immediately after the Spanish Conquest chroniclers began to record in Spanish their observations of Peruvian life and customs and to interrogate informed natives regarding these and the histori cal traditions These are our principal sources They vary greatly especially on such points as history In appraising their value modern students take into account such factors as the circum stances unde w h ch th y were written the presumptive reliability of the nati informants the degree to which statements agree w th the general p cture of Peruvian life and national temperament and ideology and e pecially whether several reliable chroniclers corroborate a gi en statement.

In Engl sh – and probably in any language – the most thorough study of Peruvian sources is *Bibl oteca And na* by Phil p Ains worth M ans one of the greatest of recent Peruvianists Means give full data on the l ves of th many chroniclers the c rcum stances of th writings and appraisals of the value of their works The latter ho vever do not always agree v ith the opinions of Means succes ors of to-day In his evaluation he placed great stress up n the att tudes of the writers and contrasted two schools the Toledan and the Gar ilassan The former consists

1 M ans 1928

for which the latter has no character Usually these are expressed in non technical writing by their nearest equivalent or by com b nations of characters though sometimes special characters are invented – a much pref rable procedure but requiring a key for the n n-cognizant Unfortunately every modern language has its particular pattern of orthography English with its irregular and illogical orthography – ind cating different vowels by doubling a following consonant or by suffixing a voiceless *e* as *filing* and *fill* *i g not* and *not* is perfectly hopeless for recording unaccustomed words and xotic sounds

Fortunately Spanish with which we are at present concerned s one of the best in th s respect though lacking characters for many rather common sounds such as English *sh* and employing a few double charact rs for simple sounds as *qu* for *k* *hu* for *w* Immed ately after the Conquest, the Spanish in Peru began writ ing the Inca language now known as Quechua made it a second official language and developed a standard orthography for it as they d d with Aztec, Maya and several Guat malan languages This differed little from the standard Spanish of the time employ ing no new characters but a few devices such as a doubled *c* for a peculiar Inca onsonant of *k* type

To-day many native Peruvian archaeologists and other writers are adopt ng a modified system of writing Quechua at least as regards prope n m s writing *k* and *w* in the English manner in place of Spanish *qu* and *hu* and changing a few other sounds to give a loser approx mation to the proper Quechua Thus they are coming to w ite and print – in scientific publication at least – Ke hwa for Quechua W ra Kocha for Viracocha Pisaj for Pisac etc. Newly discovered or slightly known archa ol gical sites that have not become standardized n Spanish spelling are ord narily known by only the more modern phonetic form, as Kenko W lka Wam Kuntur Wasi

Of course lingu stic studies of modern Quechua employ the phonetic alphabet of th linguists which requires special characters n printi g but certain Peruvianists re using an orthography with ut special characters which gives a much closer pprox m t on to the Quechua or Inca pronun iation Log cally it m ght have been better to employ this spelling in the native words u ed here n but s nce the system is new and the words not standard n gen ral the tradit onal and standard Spanish spell ng ha been employed

One such mod fied phonetic orthography was developed by Dr John H Rowe and used in his classic article Inca Culture at

of those who like Francisco de Toledo[1] Viceroy of Peru from 1569 to 158_ and his associate Pedro Sarmiento de Gamboa[1] were antagonistic to the Inca régime and who sought to prove that the Inca emperors were tyrannical usurpers who had no just claim to rule The Garcilassan school was typified by the Inca Garcilaso de la Vega[3] of royal Peruvian blood whose point of view was naturally sympathetic towards his mother s people Means concluded that the statements of the latter group would naturally be more reliable than those of the former took Garcilaso as his most reliable source and accepted his statements whenever they conflicted with those of other chroniclers assigned by Means to the Toledan school Garcilaso s statements were also widely copied and plagiarized by later writers and he has long enjoyed a reputation as the foremost authority Many modern critics however consider Garcilaso unreliable especially as regards pre Conquest history and religion Garcilaso wrote his Royal Commentaries long after he had returned to Spain and based much of his historical accounts on the writings of the now discredited Jesuit Blas Valera[5]

Both Means and Rowe however agree in their high opinion of Father Bernabé Cobo who wrote his four volume *Historia del Nuevo Mundo* about 1653 and in spite of its relatively late date this can probably be recommended as on the whole the most reliable account of Peruvian life and history Pedro de Cieza de León s *Crónica del Perú*[7] is another of the best known sources and he is generally considered honest conscientious and thorough These above named are the largest most important and best known sources but a large number of others were their contemporaries Means and the great British Peruvianist Sir Clements R Markham have translated a number of these sources into English

Spelling of Native Words

The spelling of native words of a language without written or printed literature always presents a most difficult problem All languages have sounds that are missing in another language and

1 Toledo 1940 Levillier Roberto 1935
Sarmiento de Gamboa 1906 1907 Ocampo 1?0
3 Garcilaso de la Vega 1722 1723 1869–71
4 Rowe 1945 1946
5 Valera 1879
6 Cobo 1890–95
7 Cieza de León 1554 1864 1880 1883 1932

Páramo	High wet grasslands
Sierra	Mountain range

(From Quechua)

Classic Form	*Phoneticized*	
Acllacuna	aklLakuna	Chosen Women
Alpaca	(Aymara word)	Domestic cameloid animal
Amauta	hamawt'a	Sage, wise man
Apachita	apachita	Sacred offering cairn
Aquilla	akilla	Golden goblet
Ayllu	ayllu	Social division, clan
Çanca	zankhu	Sacred bread
Charqui	chharki	Dried, jerked meat
Chasqui	chazki	Relay runner
Chicha	(not Quechua)	Fermented beverage, corn beer
Chullpa	ch'ullpa	Burial vault or tower
Chunu	ch'unu	Desiccated potatoes
Coca	kuka	Narcotic plant
Collahuaya	qollawaya	Class of native physicians
Coya	qoya	Queen
Curaca	kuraka	Subsidiary chief
Guaman	wamani	Province, political division
Guanaco	wanaku	Wild cameloid animal
Guano	wanu	Bird or bat excrement
Hauas pascuna	hawas paskuna	Left-out Girls
Hihuaya	hiwaya	A form of punishment
Huaca	wak'a	Sacred place, archaeological site
Huaco	wako	(Sp.) Archaeological vessel
Huaquero	wakero	(Sp.) Native digger, treasure hunter
Huauqui	wawqe	Supernatural Guardian brother
Huayara	wayara	Fertility festival
Ichu	ichhu	Coarse grass
Inca	Inka	Inca
Llama	llama	Domesticated cameloid animal
Llautu	llawt'u	Fillet, head band
Macanamaqana		War club

the Time of the Spanish Conquest Further study of the Inca language at the time of the Conquest led him to modify this orthography somewhat as explained in a later article [2] He has graciously supplied revised phonetic forms for most of the Quechua Inca words used in the Inca section of this book which are given below

Dr Rowe s modified phonetic form of Quechua orthography has met with almost universal approval The Inter American Indianist Congress of 1954 meeting in La Paz gave the system i s formal recommendation it is already widely used in Cuzco and the Bolivian government is considering making it an official orthography

ll represents a palatal *l* in both Colonial Spanish and Rowe s phoneticized orthography

A glottal stop and glottalized stop consonants are frequent in Inca Quechua Ignored in standard orthography they are represented phonetically by an apostrophe (') All Inca Quechua words apparently beginning with a vowel actually begin with a glottal stop

Quechua has a velar (back throat) stop in addition to *k* They were frequently undifferentiated in classic orthography but *q* is used phonetically for the velar stop

Stops (*p t k q*) are found as both aspirated and unaspirated In phonetic orthography the aspirated stops are represented by a following *h* as *ph th kh qh* This applies also to the affricative *ch* and *chh*

Glossary of Spanish and Quechua Words

(From Spanish)

Adobe	Sun dried mud generally as bricks
Altiplano	High plateau specifically that of southern Peru and Bolivia and the Lake Titicaca region
Balsa	Raft in this region made of reeds
Cordillera	Major mountain range
Encomienda	Assignment of Indians to a landlord
Encomendero	Landlord of an *encomienda*
Hacienda	Plantation or landed estate
Hacendado	Owner of an *hacienda*
Llano	Plain prairie
Montaña	Forested foothills specifically those at the eastern ba e of the Andes

1 Rowe 1946 2 Rowe 1950

Paramo	High wet grasslands
Sierra	Mountain range

(From Quechua)

Classic Form	*Phonetic*	
Aellacuna	akllakuna	Chosen Women
Alpaca	(Aymara word)	Domestic cameloid animal
Amauta	hamawt a	Sage w se man
Apachita	apachita	Sacred offering cairn
Aquilla	akilla	Golden goblet
Ayllu	ayllu	Social division, clan
Çanca	zankhu	Sacred bread
Charqui	chharki	Dried jerked meat
Chasqui	chazki	Relay runner
Chicha	(not Quechua)	Fermented beverage corn beer
Chullpa	ch ullpa	Burial vault or tower
Chuñu	ch unu	Desiccated potatoes
Coca	kuka	Narcotic plant
Collahuaya	qollawaya	Class of native physicians
Coya	qoya	Queen
Curaca	kuraka	Subsidiary chief
Guaman	wamani	Province political division
Guanaco	wanaku	W ld cameloid animal
Guano	wanu	Bird or bat excrement
Hauaspascuna	hawasipaskuna	Left out G rls
Hihuaya	hiwaya	A form of punishment
Huaca	wak a	Sacred place archaeological s te
Hu co	wako	(Sp) Archaeological vessel
Huaquero	wakero	(Sp) Native d gger treasure hunter
Huauqui	wawqe	Supernatural Guardian brother
Huayara	wayara	F rtility festival
Ichu	ichhu	Coarse grass
Inca	Inka	Inca
Llama	llama	D mesticated cameloid animal
Llautu	llawt u	Fillet, head b nd
Macanamaqana		War club

Classic Form	*Phoneticized*	
Mamacuna	mamakuna	Mother Superior
Mita	mit'a	Tax service
Mitima(es)	mitma	Compulsory colonist settler
Napa	napa	White (albino) llama
Oca	oqa	Cultivated tuber (*oxalis*)
Pachaca	pachaka	Political unit of 100 families
Pampa	pampa	Low level treeless or grassy plain
Pirca	pirqa	Masonry of undressed field stones
Pucara	pukara	Fortress
Puna	puna	High level grassy plain
Puric	pureq	Able adult man, head of household
Quechua	K'echuwa	Quechua
Quero	qeru	Wooden goblet
Quinua	kinuwa	Cultivated amaranth (*Chenopodium*)
Quipu	khipu	Knotted record
Quipucamayoc	khipu kamayoq	Knot record keeper
Saya	saya	Section of a province
Sinchi	zinchi	Chief, leader
Situa	Sithuwa	Curative festival
Suyu	suyu	Quarter of empire
Taclla	taklla	Spade or foot plough
Tambo	tampu	Inn, barracks
Tocco	t'oqo	Cave mouth, window
Topo	tupu	Shawl pin, standard of measurement
Totora	t'utura	Reed, rushes
Tumbaga	(not Quechua)	Gold copper alloy
Vicuña	wik'uña	Fine haired wild cameloid animal
Villac Umu	Willa 'uma	High Priest
Villca	willka	A narcotic (*Piptadenia*)
Yacarca	yaqarqa	Soothsayer, diviner
Yanacuna	yanakuna	Class of servants

DEITIES

Illapa	Illap'a	Thunder
Inti	Inti	Sun

Classic Form	*Phonetic ...ed*	
Mamacocha	Mamaqocha	Mother Sea
Mamaqu lla	Mama Killa	Moon
Mama sara	Mama Zara	Mother Corn
Pachamama	Pachamama	Earth Mother
Vira ocha	Wiraqocha	Creator

PERSONS

Ayar Auca	Ayar Awqa	Brother of Manco Capac
Ayar Cachi	Ayar Kachi	Brother of Manco Capac
Ayar Uchu	Ayar U hu	Brother of Manco Capac
Ayar Manco	Ayar Manku	Manco Cap c
Mama Ocllo	Mama Oqllu	Sister of Manco Capac
Mama Huaco	Mama Waqo ("jaw")	Sister of Manco Capac
Mama Cura	Mama Qora	S ster of Manco Capac
Mama Raua	Mama Rawa	Sister of Manco Capac
Manco Capac	Manku Qhapaq	Myth cal founder of Inca em p re
Sinchi Roca	Z nchi Roq a	Son of Manco Capac

MONTHS

Capac Raimi	Qhapaq raymi	December
Camay	Kamay	January
Hatun Pucuy	Hatun poqoy	February
Pa car Huara *or* Pacha Pucuy	Pawqar waray *or* Pacha poqoy	March
Ayrihua	Ayriwa	April
Hatun Cuzqui	Aymuray *or* Hatun kuzki	May
Yntip Raimi	Inti raymi	June
Chahuar Huarqu z	Chawawa kiz	July
Y paquiz	Yapakiz	August
Coya Raimi	S thuwa *or* Qoya raym	September
Uma Raimi	K antaray *or* Uma raym	October
Ayamarca Ra mi	Ayamarka raym	November

REGIONS AND PLACES

Ch nchasuyu	Chinchay suyu	North-east qu rter of empire
Cuntisuyu	Kunti suyu	West quarter of empire

Classic Form	*Phoneticized*	
Mamacuna	mamakuna	Mother Superior
Mita	mit'a	Tax service
Mitima(es)	mitma	Compulsory colonist, settler
Napa	napa	White (albino) llama
Oca	oqa	Cultivated tuber (*oxalis*)
Pachaca	pachaka	Political unit of 100 families
Pampa	pampa	Low level treeless or grassy plain
Pirca	pirqa	Masonry of undressed field stones
Pucara	pukara	Fortress
Puna	puna	High level grassy plain
Puric	pureq	Able adult man, head of household
Quechua	K'ichuwa	Quechua
Quero	qeru	Wooden goblet
Quinua	kinuwa	Cultivated amaranth (*Chenopodium*)
Quipu	khipu	Knotted record
Quipucamayoc	khipu kamayoq	Knot record keeper
Saya	saya	Section of a province
Sinchi	zinchi	Chief, leader
Situa	Sithuwa	Curative festival
Suyu	suyu	Quarter of empire
Taclla	taklla	Spade or foot plough
Tambo	tampu	Inn, barracks
Tocco	t'oqo	Cave mouth, window
Topo	tupu	Shawl pin, standard of measurement
Totora	t'utura	Reed rushes
Tumbaga	(not Quechua)	Gold copper alloy
Vicuña	wik'uña	Fine haired wild cameloid animal
Villac Umu	Willa uma	High Priest
Villca	willka	A narcotic (*Piptadenia*)
Yacarca	yaqarqa	Soothsayer, diviner
Yanacuna	yanakuna	Class of servants

DEITIES

Illapa	Illap'a	Thunder
Inti	Inti	Sun

Classic Form	Phoneticized	
Mamacocha	Mamaqocha	Mother Sea
Mamaquilla	Mama Killa	Moon
Mama sara	Mama Zara	Mother Corn
Pachamama	Pachamama	Earth Mother
Viracocha	Wiraqocha	Creator

PERSONS

Ayar Auca	Ayar Awqa	Brother of Manco Capac
Ayar Cachu	Ayar Kachi	Brother of Manco Capac
Ayar Uchu	Ayar Uchu	Brother of Manco Capac
Ayar Manco	Ayar Manku	Manco Capac
Mama Ocllo	Mama Oqllu	Sister of Manco Capac
Mama Huaco	Mama Waqo (jaw)	Sister of Manco Capac
Mama Cura	Mama Qora	Sister of Manco Capac
Mama Raua	Mama Rawa	Sister of Manco Capac
Manco Capac	Manku Qhapaq	Mythical founder of Inca empire
Sinchi Roca	Zinchi Roqa	Son of Manco Capac

MONTHS

Capac Raymi	Qhapaq raymi	December
Camay	Kamay	January
Hatun Pucuy	Hatun poqoy	February
Paucar Huara *or* Pacha Pucuy	Pawqar waray *or* Pacha poqoy	March
Ayrihua	Ayriwa	April
Hatun Cuzqui	Aymuray Hatun kuzki	May
Yntip Raimi	Inti raymi	June
Chahuar Huarquiz	Chawawarkiz	July
Yapaquiz	Yapakiz	August
Coya Raimi	Sithuwa *or* Qoya raymi	September
Uma Raimi	Kantaray *or* Uma raymi	October
Ayamarca Raimi	Ayamarka raymi	November

REGIONS AND PLACES

Chinchasuyu	Chinchay suyu	North-east quarter of empire
Cuntisuyu	Kunti suyu	West quarter of empire

Classic Form	*Phoneticized*	
Collasuyu	Qolla suyu	Southern quarter of empire
Antisuyu	Anti suyu	Eastern quarter of empire
Tahuantinsuyu	Tawantin suyu	The Inca empire
Apurimac	Apu rimaq	Apurimac River
Rimac	Rimaq	Rimac River
Paccari Tampu	Paqari Tampu	Origin *tambo*
Tampu Tocco	Tampu T'oqo	Tambo Hole (Mythical Inca place of origin)
Huanacauri		Sacred hill near Cuzco
Coricancha	Qori kancha	Temple of Sun in Cuzco

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ABSOLUTE AND RADIOCARBON DATING

Bird 1951 Johnso Freder ck Johnson Rainey Coll r and Fl nt Kubl 1948 L bby R w 1945 1948b Wauchop

(B) *Pre Inca Culture*

ANCIENT MAN IN AMERICA

Amegh no Av l yra Arr y de Anda nd M ld n do-Ko rd ll B rd 1938 Créqu Montf rt and Rivet Gamarra Dul nt H dl čka 1917 H dl čka *et al* Lütk n M cgowan McC wn 1950 952 R et 1908 S llards Sull an and H llman T n Kat Uhl 1928 W lt *et al* Wormington.

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NORTH COAST

Antze Bennett 1939 1950 Bird 1948a 1948b Brown Carrera Ford Ford and Willey Harcourt 1928a 192?b Harth Terré Holstein Horkheimer 1944 Joyce 1913a 1913b 1921 1922 Kelly Kroeber 1925a 1926a 1930 Kroeber and Muelle Kuts h r Larco Herrera Larco Hoyle 1938–9 1941 194 1943 1944 1945a 1945b 1945c 1945d 1946 1948 Lilien Lothrop 1941 1948 1951a 1954 Mason 19 6b 1930 Middendorf 1892 Muelle 1936 O Neale 1946 Posnansky 1925 Raimondi 1903 Rowe 1942 1948 Schaedel 1949 1951b 1951c Strong and Evans Tello 1938 Uhle 1913a 19 0a Wardle 1940 Whitaker and Bird Willey 1947 1953a

CENTRAL COAST

Gayton Harcourt 1922 Jijón y Caamaño 1949 Kroeber 1925b 1926b Lothrop 1950 Muelle 1935 Reiss and Stübel Strong 1925

Strong and Corbett Strong and Willey Strong W llev nd Corbett T ll) and Miranda Uhle 1903 1908a 1913c Villar Có do a 1935 Willey 1943a 1943b W ll y nd Corbett

SOUTH COAST

B rhon Canas Carr ón C chot 1949 Doering 19 7 Gayton and Kroeber González de la Rosa 1908 Ko ok and Re h Kroeber 1937 953 Kroeber and Stro g Larrabure nd Unánue Le ill er Jean M n 1932 O N al 193 1935 1936 1937 194 Putnam R ch Root 1949a S le 19 3 Squier Staff rd Tello 1917 19 8 Uhle 913b 1917b 1919a 1919b 192 19 4a 19 4b 1924c 1924d Wardl 1939 Y covl ff nd Muelle

NORTHERN HIGHLANDS

Band l r 1907 Benn tt 1942 1943 1944 Enock 1905 Kinzl Kroeber 1953 Langlo Markham 1910b McCown 1945 Pol Raim nd Re hlen Schaed l 1948b 1948c Tello 1923 1930 1943 Will y 195 b

CENTRAL HIGHLANDS

Bennett 1953a Bingham 1911 1912a, 19 b 1913 1914 1915a 1915b 1916 192 1930 Bowman 1912 Fejos Franco Inojosa Franc In jos and González Kubl r 195 Pard Rowe 1944 Ro Coll and Will y S lle 1926 Tech pik Harry Uhl 19 0c V lcárcel 1924 1933 19 4-5 1939 1946 Villar Córdova 1923 Von H gen 1949 1952a

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(c) The Inca and their Culture

(S l So ces)

GENERAL

B ngham 19 7 Han t n Hev tt J y 191 K rst n Krick b rg M rkh m 1856 1873 191 Mead 1924 Means 1931 1938 Nu dock N d sk öld 1925-7 R we 1946 1948a T llo 193 Urt g 93 V rg

HISTORICAL

Bu h ld H lp Imb ll 1946 Kubler 1946 Lothr p 1938 M rkham 1871 Means 1918b 1932 M hkın Nordensk öld 1917 Prescott Row 1945 Uhl 191

1931 Mead 1906 1909 1916a 1917 Means 1917a 1918d, 1921a 19 cb Mu lle and Bla Po nansky 1913 Schmidt Max Tello 1918 1938 Uhl 1889 Y co leff 1932

TECHNOLOGY GENERAL

B n tt and B d 1949 Uhle 1889–90

TEXTILES AND WEAVING

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Antz B essle 1906 Bergsøe F rabee Harcourt 1928a Heine G ld rn Joyce 1913 Lothrop 1937 1941 1950 1951a, 1951b 1954 Mas n 1930 1933 M ad 1915 N d n k öld 1921a Orch d Rivet 1924 R t d Arsand ux Root Savill 1921 V lcárcel 1930

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THE DEAD SEA SCROLLS

J M Allegro

A376

In the early summer of 1947 an Arab shepherd stumbled upon a cave near the Dead Sea containing seven ancient scrolls They proved to be part of the library of a Jewish monastic community living before and during the time of Christ. Later discoveries produced the remains of hundreds more scrolls from the same source so that today we have an undreamt of insight into Jewish sectarianism of this all important period It is already clear that many of the characteristic ideas of Jewish Christianity were cradled in just such a religious environment

The study of this exciting new evidence is fast becoming a field of research on its own account, and this book surveys in popular form some of the more important results so far achieved with a particular orientation towards New Testament studies where it is now clear the main interest of these priceless documents must lie

As archaeologist and resident student he has come to know Jordan well and his important and fascinating book is full of new information about the finding and the early adventures of the scrolls His account of the difficulties and dangers of gaining access to and searching the Dead Sea caves is the first that has done real justice to the strangeness of this recent exploit, which has suddenly brought to light a whole library of pre Christian texts as well as a number of documents from the second Jewish revolt of A.D 135 The book is vividly written, and it covers a good deal of ground in a lucid and compact way It is illustrated with 42 new photographs — Edmund Wilson in the *New Statesman*

ALCHEMY

E. J. Holmyard

A348

From the dawn of history the shining and untarnisha
metal gold has exerted its fascination upon man. Very ea
the idea arose that other metals were either impure or unr
gold, and that therefore by suitable treatment they could
converted into the precious metal itself. Such a belief
principal tenet of alchemy, led to vast programmes of expe
ment, from which, after the lapse of centuries, a scienti
practical chemistry developed. But the fact that the belief
transmutation was almost universally accepted offered gr
opportunities to rogues and charlatans, who were not slow
take advantage of human credulity and avarice. Side by si
with honest searchers, therefore, were clever scoundrels w
fleeced prince, peer, and peasant by the skill with which th
carried out tricks of sleight of hand and deluded their victi
into thinking that here was an infallible method of acquiri
unlimited wealth.

There were other aspects of this subject of alchemy. Go
was attributed with marvellous therapeutic properties, a
many of the alchemists spent their years and substance
attempting to prepare from it an elixir of life. Others fou
in alchemical theory a religious or mystical symbolism a
regarded the aim of the art as the perfecting of the hum
soul rather than as the artificial production of gold.

In this book the origins and growth of alchemy are d
scribed with an account of the underlying philosophical co
ceptions, and the romance … the art is illustrat
by stories of some of the … or notorious of

ALCHEMY

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A348

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transmutation was almost universally accepted offere
opportunities to rogues and charlatans who were not s
take advantage of human credulity and avarice Side b
with honest searchers therefore were clever scoundrel
fleeced prince peer and peasant by the skill with whic
carried out tricks of sleight of hand and deluded their v
into thinking that here was an infallible method of acq
unlimited wealth

There were other aspects of this subject of alchemy (
was attributed with marvellous therapeutic properties
many of the alchemists spent their years and substanc
attempting to prepare from it an elixir of life Others fo
in alchemical theory a religious or mystical symbolism
regarded the aim of the art as the perfecting of the hun
soul rather than as the artificial production of gold

In this book the origins and growth of alchemy are
scribed with an account of the underlying philosophical co
ceptions and the romance attaching to the art illustrat
by stories of some of the most celebrated [illegible] of
practitioners